PR0001  
Basic Neurogastroenterology (Nerve-Gut, Motility)  
Age-related particularities of electrogastroenterography parameters  
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Objective: Study objective – to study the age related particularities of electrogastroenterography (EGER) parameters and its effect on electrophysiological evaluation of gastrointestinal motor function.  

Methods: The study involved 15 young (age 18–23 years) and 15 old (age 69–75 years) practically healthy people. The criteria of inclusion of the study were the absence of organic and functional gastrointestinal diseases in the anamnesis. To evaluate the gastrointestinal tract motor functions we used EGER method with evaluation of parameters for basal and stimulated electric activity (EA) of gastrointestinal sections. Standard food load was used as the stimulator of GMF. We used the following parameters: Ps (mV) – total level of gastrointestinal EA; Pi (mV) – EA by gastrointestinal sections, Pi/Ps (%) – rate of each frequency spectrum in total spectrum; K rhythm – ratio of spectrum curve to the length of spectrum part for studied, Pi/P (i + 1) – ratio of EA of superior gastrointestinal section to inferior.  

Results: When comparing the EGER parameters in two groups using Mann – Whitney U-test we found no statistically significant differences between groups of old and young people. Using the discrimination analysis (DA) we detected 5 variables in which the groups of young and old studied people possessed statistically significant differences. The parameters involved basal parameters – Pi of colon, Pi/Ps of stomach, Pi/P (i + 1) jejunum/ileum, K rhythm of duodenum and colon, as well as stimulated parameters – Pi/Ps of duodenum and Pi/P (i + 1) duodenum/jejunum. Based on the DA we created the mathematical models of duodenal stenosis. Use of detected age-related particularities of EGER parameters allowed us to increase the accuracy of proposed distribution parameters for basal and stimulated EA parameters. This was observed during interpretation of the results of electrophysiological evaluation of GMF.  

Key Word(s): 1. electrophysiology; 2. electrogastrography; 3. electroenterography; 4. electrogastroenterography.

PR0002  
Basic Neurogastroenterology (Nerve-Gut, Motility)  
Effect of psychological stress on colonic motor response and inflammatory cells in the Ws/Ws rats  
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Objective: To investigate whether the colonic motility response and the change of mast cells (MC)/PAR-2 immunoreactive cells in colonic mucosa after chronic psychological stress is different between 6- and 14-week-old Ws/Ws rats.  

Methods: Six-week-old (n = 12) and 14-week-old (n = 12) homozygous mutant rats at the white spotting locus (Ws/Ws rat) were used. Rats were handled daily by the same person and submitted to water avoidance stress (WAS) daily for 13 days. Rats were exposed to stress session for 1 hr/day in the morning for 13 days and their fecal pellet output (FPO) were counted during WAS or sham WAS. Rats were euthanized after completion of stress experiment and whole colon was collected. Immunohistochemistry for mast cell tryptase and PAR-2 were performed in the proximal and distal part of colon.  

Results: There was no difference in body weight change during stress experiment between WAS and sham WAS group. WAS group exhibited increased FPO during 13 days compared to sham stress. This effect was significant for both aged Ws/Ws rat. MC were nearly absent in the colonic mucosa of 14-week-old Ws/Ws rat. In 6-week-old Ws/Ws rats, number of MC in the colonic mucosa were statistically increased by WAS compared to sham WAS. PAR-2 cells were statistically increased by WAS only in the 14-week-old Ws/Ws rat. Increased MC and PAR-2 cells by WAS were observed mainly in the proximal colon.  

Conclusion: Chronic psychological stress increased colonic motility independently to the presence of mast cell in the colonic mucosa. And psychological stress increased not only mast cells but also other inflammatory cells preferentially in the proximal colon.  

Key Word(s): 1. Psychological stress; 2. mast cell; 3. colon; 4. Ws/Ws rat;
significantly more than that in control group (p < 0.05). Length of low esophagus sphincter (LES) was 3.14 ± 1.46 cm in GERD, and 3.13 ± 0.84 cm in control (p = 0.828). Reflux time were more in GERD than in control when upright (10.85 ± 12.89 vs. 0.75 ± 0.889, p = 0.01), while on supine alike (10.28 ± 22.35 vs. 0.36 ± 0.58, p = 0.024). In esophageal proximal, acid regeneration time and weak regurgitation time were different in GERD and control (p = 0.012, p = 0.036), while non-acid regurgitation time were undifferent (p = 0.18). In esophageal distal, acid regurgitation time, weak acid regurgitation time and non-acid regurgitation time were undifferent in GERD and control group (p = 0.072, p = 0.197, p = 0.067). Alimentary bolus when upright and supine were same in two groups. Conclusion: Geriatric LES pressure are lower than normal, but undifferent in GERD and control group. Reflux time in GERD were more often than in control when upright and supine. In esophageal proximal, acid regurgitation time and weak acid regurgitation time were more often in GERD than in control. Intake doesn’t contribute to reflux. 24-hours digiteraph pH-Z are more sensitive than esophageal manometry for the diagnosis of geriatric GERD.

Key Word(s): 1. Geriatric GERD; 2. 24-h digiteraph pH-Z; 3. esophageal manometry; 4. regurgitation;

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**PR0003**

Basic Neurogastroenterology (Nerve-Gut, Motility)

The role of SRF-IEG in a rat model of visceral hypersensitivity induced by acute restraint stress

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Objective: To explore the role of SRF-IEG on the formation of visceral hypersensitivity induced by acute restraint stress. Methods: 12 male Sprague-Dawley rats were randomly divided into control group and acute restraint stress group (model group). Visceral hypersensitivity was made by acute restraint stress for 2 h. The coloroetal distension (CRD) with different pressure were performed and abdominal withdrawal reflex (AWR) scores were observed during CRD. The visceral hypersensitivity was determined by AWR scores. The expression of serum response factor (SRF) and immediate early gene (IEG, including arc and c-fos) were measured by immunofluorescence, real time RT-PCR and Western blots. Results: The AWR scores in model group (at 20 and 40 mmHg) were significantly more than that in control group (p < 0.05). The expression of mRNA of SRF, ARC and c-fos were higher in model group (p < 0.05). The expression of protein of SRF and c-fos were higher in model group (p < 0.05). Conclusion: The SRF-IEG signal passway has an important role in the formation of visceral hypersensitivity induced by acute restraint stress.

Key Word(s): 1. restraint stress; 2. hypersensitivity; 3. SRF; 4. IEG;

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**PR0004**

Basic Neurogastroenterology (Nerve-Gut, Motility)

The analysis of reflux features in Geriatric GERD patients

Presenting Author: YAN DI

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Objective: To analyze the features of reflux in Geriatric GERD patients. Methods: We enrolled randomly patients (55–85 years old) who visited doctors in the outpatient service of Beijing Shijitan Hospital with the reflux symptom from January 2011 to March 2013. 12 patients (eight males vs four females) in study group matched ROME-III GERD diagnosis criteria and 16 persons (ten males vs six females) were in control group. Endoscopy, esophageal manometry and 24-hours digiteraph pH-Z were conducted. All data were normal distribution, and statistical analysis were independent t-test. Results: Patients in GERD and control group were 67.92 ± 19.88 years old and 64.94 ± 17.38 years old respectively (p < 0.05). Length of esophagus sphincter (LES) was 3.14 ± 1.46 cm in GERD, and 3.13 ± 0.84 cm in control (p = 0.828). Reflux time were more in GERD than in control when upright (10.85 ± 12.89 vs. 0.75 ± 0.889, p = 0.01), while on supine alike (10.28 ± 22.35 vs. 0.36 ± 0.58, p = 0.024). In esophageal proximal, acid regeneration time and weak regurgitation time were different in GERD and control (p = 0.012, p = 0.036), while non-acid regurgitation time were undifferent (p = 0.18). In esophageal distal, acid regurgitation time, weak acid regurgitation time and non-acid regurgitation time were undifferent in GERD and control group (p = 0.072, p = 0.197, p = 0.067). Alimentary bolus when upright and supine were same in two groups. Conclusion: Geriatric LES pressure are lower than normal, but undifferent in GERD and control group. Reflux time in GERD were more often than in control when upright and supine. In esophageal proximal, acid regurgitation time and weak acid regurgitation time were more often in GERD than in control. Intake doesn’t contribute to reflux. 24-hours digiteraph pH-Z are more sensitive than esophageal manometry for the diagnosis of geriatric GERD.

Key Word(s): 1. Geriatric GERD; 2. 24-h digiteraph pH-Z; 3. esophageal manometry; 4. regurgitation;
Conclusion: We learned it until the linearization of the scope by an overall degree of achievement curve relatively easily, but it became clear that the technique acquisition suddenly became difficult from recognize the papilla in front to successful cannulation. On this examination allowing the pickup of the common problems that or is different between each practiced hand, and examining a rational training method of the future.

Key Word(s): 1. ERCP; 2. training;

Objective: Pancreatic duct stone (PDS) in chronic pancreatitis (CP) is a challenging condition for endoscopists. Endoscopic retrograde pancreatography (ERP) can clear PDS in only some CP patients and many centers combined ERP with extracorporeal shockwave lithotripsy (ESWL) to improve PDS clearance. There is no published data regarding ESWL and ERP in the management of PDS in Thailand available. Our aim to review the outcome of ESWL and ERP in the management of PDS in CP in this study and it is comparable to other reports but the complication rate of 29% in this study is rather high.

Key Word(s): 1. Chronic pancreatitis; 2. ESWL; 3. ERCP; 4. Pancreatic stone;

PR0007
Biliary Tract
Obstructive jaundice due to ascariasis
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Objective: Ascariasis is a widespread helminthic infection affecting more than 1.4 billion people in the world, with the majority of infections occurring in the developing countries of Asia and Latin America. It is acquired by oral consumption of eggs with embryos. Every year 20,000 people in endemic areas die from disease caused by ascariasis. Adult ascariasis infection gives rise to two kinds of disease: the first is intestinal ascariasis (ascariasis intestinalis), which is frequently encountered and the second is a condition called ascariasis aberrance, which appears with the migration of the ascaris to organs outside the intestines. Despite the fact that the adult ascaris is generally not very active in the intestines, in some cases it may enter organs linked to the intestines such as the stomach, large intestines, pancreatic canal and ductus choledochus, thereby reaching the thinner biliary canals in the liver. Whereas intestinal ascariasis generally does not cause any serious problems, the settling of the ascaria outside the intestines is likely to cause serious disease. Hepato-pancreatic ascariasis is an important cause of biliary and pancreatic disease in endemic areas. It affects adult women and may give rise to serious conditions such as biliary colic, acute cholecystitis, acute cholangitis, acute pancreatitis and hepatic abscess. In this report, a patient with obstructive jaundice and acute pancreatitis caused by ascaris in the extrahepatic biliary ducts is described.

Methods: Case study. Results: Case: A 56-year-old man was admitted to CiptoMangunkusumo hospital because of jaundice since four months before. The complaint preceded by recurrent abdominal pain that was developed unrelated to food intake, position, or respiration. There were no history of trauma. The abdominal ultrasound showed a collapsed gallbladder with non visualized pancreas due to the air in the bowel. The antibiotics was given and the pain were diminished but jaundice still existed. The laboratory results showed that there were still an increase in the ALT, AST, and bilirubin. The Abdominal CT revealed pancreatitis. There was an increase in the CA 19–9. ERCP revealed mild of dilatation pancreatic duct and no dilatation in the CBD, CHD and IHBD bilaterally. We also found Ascaris in Gallbladder to CBD and it was extracted using balloon extractor. The patient was given Mebendazole once daily for three days. The patient ascaris in Gallbladder to CBD and it was extracted using balloon extractor.

The mean number of shocks + SD was 2917 ± 668 times. The number of ERP post ESWL was 1 in 6, 2 in 4, 3 in 2, 4 in 2 and 5, 7, 8 in one each. 13 (76.47%) had completed PDS clearance. In 13 with failed ERP before ESWL, 10 (76.9%) had complete PDS clearance after ESWL. The clinical symptoms improved in 14 (82.35%) (12 with PDS clearance, 2 with failed PDS clearance), 2 with failed PDS clearance had no improvement and information was unavailable in 1 with PDS clearance. The mean follow-up time + SD was 453.9 ± 234.5 days with a range of 43–761 days. Complications occurred in 5 (29.4%) which included peri-pancreatic infection 1, bleeding 1, fever 1, pancreatitis 1 and retroperitoneal perforation 1 and all responded to conservative treatment. Conclusion: ESWL combined with ERP is effective in the management of PDS in CP in this study and it is comparable to other reports but the complication rate of 29% in this study is rather high.

Key Word(s): 1. Chronic pancreatitis; 2. ESWL; 3. ERCP; 4. Pancreatic stone;
Endoscopic removal of common bile duct stones is relatively safe and effective. Acute pancreatitis, hemorrhage, acute cholangitis, duodenal perforation are the most common early complications, the clinic effect is good if positive treatment.

Key Word(s): 1. Endoscopic therapy; 2. efficacy; 3. early complications;

PR0008
Biliary Tract
Bilateral drainage, more effective approach for Klatskin tumor

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Biliary drainage is one of the most important treatment in palliation with Klatskin tumor. There is still uncertainty about optimal choice of either unilateral or bilateral drainage with hilar biliary obstruction.

Methods: We retrospectively reviewed 72 patients with unresectable Klatskin tumor who underwent metal stent between January 2009 to September 2012. All cases were beyond Bismuth type II. 41 patients were drained bilaterally, whereas 31 patients were performed unilateral stent.

Results: Bilateral drainage had superiority over unilateral drainage in median survival time (256 ± 154 days vs 196 ± 80 days, p < 0.05) and median stent patency time (230 ± 139 days vs 165 ± 68 days, p < 0.05). Cholangitis occurred more frequently after unilateral drainage (6/31, 19% vs 1/41, 2.4%).

Conclusion: Bilateral drainage seems to be more effective for palliation in hilar biliary obstruction, although its technical difficulty.

Key Word(s): 1. biliary stent; 2. bilateral drainage;

PR0009
Biliary Tract
The clinical study on the endoscopic therapy of common bile duct stones

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Objective: To study the efficacy and early complications of endoscopy in the treatment of common bile duct stones. Methods: The clinical date of 454 cases of common bile duct stones treated with endoscopy in the 1st Hospital of Guangxi Medical University from January 2007 to April 2012 were collected. The diagnosis was established by endoscopic retrograde cholangiopancreatography (ERCP).

Results: Of 454 cases, 289 cases treated with EST, 97 cases treated with EST + EPND, 41 cases treated with EPBD, 130 cases treated with EST + EPBD, the successful bile duct stone clearance rate was 92.4%, 96.9%, and 95.1% respectively; 21 cases who had undergone endoscopic removal of common bile duct stones with EST in the past, because of the duodenal papilla opening large enough, were removed with a basket or balloon catheter directly with or without mechanical lithotripsy; ENBD was used in all above of the cases; 6 cases with large size stones (≥2.5 cm), only ENBD were placed before surgery, the plastic biliary stents or surgical treatment were performed in 27 cases who failed in Endoscopic extraction of stones with EST or EPBD. Post-ERCP early complications included mild acute pancreatitis, hemorrhage, acute cholangitis, duodenal perforation, which happened 35 cases (7.7%), 31 cases (6.8%), 5 case (1.1%), 1 cases (0.2%) respectively. The mortality of post – ERCP complication was zero. All cases were cured through positive treatment.

Conclusion: Endoscopic removal of common bile duct stones is relatively safe and effective. Acute pancreatitis, hemorrhage, acute cholangitis, duodenal perforation are the most common early complications, the clinic effect is good if positive treatment.

Key Word(s): 1. Endoscopic therapy; 2. efficacy; 3. early complications;

PR0010
Biliary Tract
Effects of probiotic enema in patients with severe acute pancreatitis

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Objective: Failure of the intestinal barrier, together with bacterial overgrowth due to motility changes and immunosuppression, constitute the pathways of the continuous pancreatic contamination from bacterial translocation in the patients with severe acute pancreatitis. The infectious complications are held responsible for the morbidity and mortality from pancreatic necrosis. Several trials with enteral probiotics have shown a significant reduction of the infections both in acute pancreatitis and in patients undergoing major abdominal surgery. Bifid Triple Viable, the combination of bacillus acidophilus, bifidobacterium bifidum, and fecal streptococci, made in Shanghai Xinyi pharmacy Inc. of China, are usually used in patients with diarrhea, alteration of intestinal flora, but has not been known if it is safe and valid in treating acute pancreatitis. Objective: Goal of this study is to determine if Bifid Triple Viable, coupled with enema, is capable of preventing infectious complications in severe acute pancreatitis.

Methods: Fifty patients with severe acute pancreatitis were randomized into experimental group (n = 25) and control group (n = 25). All the patients received routine treatment, including fasting, acid suppressing, antibiotics, Rhubarb and Salvia miltiorrhiza treatment. Beyond that, the patients in the treatment group will receive a daily probiotic enema with 0.5 g Bifid Triple Viable diluted in 50–100 ml normal saline until discharge. Serum amylase level, C reactive protein (CRP) value, and abdominal pain were examined, recorded and compared between two groups in order to evaluate the effectiveness of probiotic enema in the treatment of severe acute pancreatitis.

Results: Of the patients in the control group, serum amylase level returned to normal in 3.6 ± 0.7 days averagely, whereas it only took 1.9 ± 0.9 days in the experimental group. The differences were statistically significant with P < 0.05. CRP became normal in 7.8 ± 2.2 and 5.3 ± 1.4 days in control and experimental groups, respectively. Moreover, the symptom of abdominal pain disappeared in 5.1 ± 1.6 days for the patients in the control group, while in 3.7 ± 1.1 days for those in the experimental groups. All the differences were statistically significant with P < 0.05. Conclusion: On the basis of routine treatment, combination of Bifid Triple Viable and enema treatment exerted significant beneficial effects on severe acute pancreatitis.

Key Word(s): 1. Bifid Triple Viable; 2. Enema; 3. Probiotics; 4. SAP;
Post EUS-FNA acute pancreatitis in pancreatic heterotopia

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**Objective:** Endoscopic ultrasound (EUS) has become an important diagnostic tool for management of SMT. With the addition of fine needle aspiration (FNA), the accuracy of can improved up to 98%. However, EUS-FNA is not without risk and complications. We illustrate a rare complication of EUS-FNA in which a patient with pancreatic heterotopia presented with acute pancreatitis post EUS-FNA. **Methods:** A 57-year-old man presented with incidental finding a 2 cm submucosal tumour at the antrum during screening endoscopy. Endosonography (GF-UE160-AL5, Olympus, Tokyo, Japan) showed a layer four homogenous hypoechoic lesion measuring 1.97 x 1.40 cm with no crossing of layers. EUS-FNA (GF-UCT-140-AL5, Olympus, Tokyo, Japan) was performed initially with 3 passes using the 19 G ProCore needle (Cook Medical Inc, Limerick Ireland). Decision was made to switch to 25 G needle (Cook Medical Inc, Limerick Ireland) as only blood was seen on the smears from the core needle and 2 extra passes performed. The procedure was uneventful. Eight hours after procedure, patient presented with sudden onset epigastric pain. Physical examination was unremarkable. Blood investigation showed raised amylase and lipase at 302 U/L (33–126) and more than 400 U/L (14–40) respectively. Pain resolved with 75 mg of diclofenac sodium given via intramuscular route. **Results:** Abdominal computer tomography was performed four days later, and showed stranding of the fat adjacent to the SMT suggestive of inflammation. The histologic later showed benign yield of acinar and ductal epithelial cells, the cores of tissue shows lobules of pancreatic parenchyma composed of acinar cells and occasional ducts and fibrous stroma. The features are consistent with diagnosis of benign pancreatic tissue and pancreatic heterotopia. **Conclusion:** Pancreatic heterotopia is presence of pancreatic tissue outside of its usual location, without structural or vascular continuity with surrounding pancreas. Proper to the pancreas proper, acute pancreatitis can also occur in patients with pancreatic heterotopia undergoing EUS-FNA.

**Key Words:** 1. Ectopic pancreas; 2. FNA; 3. Ultrasound; 4. Endoscopic;

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**PR0014**

Colonic and Anorectal Disorders

The value of diagnosis and prognosis prediction of serum miR-29a for colorectal cancer

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**Objective:** Colorectal cancer (CRC) remains one of the major cancer types and cancer related death worldwide. Sensitive, non-invasive biomarkers that can facilitate disease detection, staging and prediction of therapeutic outcome are highly desirable to improve survival rate and help to determine optimized treatment for CRC. MicroRNAs (miRNAs), have recently been identified as critical regulators for various diseases including cancer and may represent a novel class of cancer biomarkers. The purpose of this study was to investigate the value of diagnosis and prognosis prediction of serum miR-29a for colorectal cancer. **Methods:** Serum miR-29a was detected by using real-time RT-PCR, corresponding 50 CRC patients without metastasis, 48 CRC patients with liver metastasis and 50 healthy volunteers. They were a similar cohort of age- and sex-matched CRC patients without and with metastasis. The correlation between the expressions of serum miR-29a with clinical parameters of CRC patients was analyzed. The value of diagnosis and prognosis prediction of serum-specific miR-29a for CRC was evaluated. **Results:** Serum miR-29a was significantly higher in CRC patients than in controls (p < 0.01). In addition, increased levels of miR-29a expression were also observed in colorectal tumors from colorectal liver metastasis patients compared with CRC patients (p < 0.05). It yielded a receiver operating characteristic curve area of 0.855. At a cutoff value of 0.151, the sensitivity was 79.38% and the specificity was 85.26% in discriminating metastatic from non-metastatic patients. **Conclusion:** These findings suggest that serum miR-29a has strong potential as a novel noninvasive biomarker for early diagnosis of CRC patients and high levels of serum miR-29a were associated with poor prognosis. It may represent a novel and sensitive noninvasive biomarker in early diagnosis and prognosis prediction of colon cancer.

**Key Words:** 1. Colorectal cancer; 2. Serum; 3. MicroRNAs; 4. Diagnosis;
**PR0015**

Colonic and Anorectal Disorders

CXCR4 is down-regulated by NF-Kappa B p65 siRNAs in colorectal carcinoma cell line SW620

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**Objective:** CXC chemokine receptor 4 (CXCR4) and NF-kappa B pathway are both upregulated and play an important role in blood metastasis in human colon cancer. The aim of this research was to study whether CXCR4 is regulated by NF-kappa B pathway. **Methods:** NF-kappa B p65 siRNAs and negative control siRNA-A were commercially designed by Santa Cruz biotechnology, inc. SW620 cells were transfected with NF-Kappa B p65 siRNAs as the treatment group, negative control siRNA-A as negative control group or PBS as normal control group using Lipofectamine 2000 for 6 hours at 37°C in 6-well plates. The nuclear NF-Kappa B p65 protein, the relative CXCR4 mRNA level, the total cell CXCR4 protein level and the cell surface level of CXCR4 was determined by ELISA. TaqMan RT-PCR reaction, western blot and flow cytometry. **Results:** The nuclear NF-kappa B p65 OD value of the normal control group, negative control group and the treatment group was 0.298 ± 0.044, 0.308 ± 0.034 and 0.085 ± 0.019. The relative CXCR4 mRNA level of the normal control group, negative control group and the treatment group was 1 ± 0.06, 0.99 ± 0.09 and 0.17 ± 0.02. The percentages of CXCR4 positive cells of the normal control group, negative control group and the treatment group were much lower than those of the normal control and the negative control group. **Conclusion:** CXCR4 is regulated by NF-kappa B pathway in colorectal carcinoma cell line SW620. **Acknowledgements:** This study was supported by National Natural Science Foundation of China. No. 81272640; Guangdong Science and Technology Program, No. 2010B031200008 and No. 2012B031800043. **Key Words:** 1. CXCR4; 2. NF-kappa B; 3. colorectal carcinoma;

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**PR0017**

Colonic and Anorectal Disorders

Real-time optical diagnosis of all colorectal polyps improves the efficiency of colonoscopy practice

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**Objective:** Real-time Optical Diagnosis (OD) of all colorectal polyps has the potential to improve the practice of colonoscopy; patients can be informed of the results and the timing of surveillance at discharge, potentially allaying anxiety of waiting for results and reducing follow-up clinic visits costs. The objective criteria for OD of colorectal polyps using the Narrow Band Imaging have been validated. The evidence based society guidelines for implementation of OD have been established. We aimed to provide a comparative effectiveness study to determine if OD for all colorectal polyps can be applied in patient care. We hypothesized that the use of close view colonoscopy technology can improve the efficiency of practice. **Methods:** Five endoscopists made an OD (neoplastic vs non-neoplastic) of the histology of colorectal polyps using two randomly assigned colonoscopes (close view, CFHQ190 vs standard view, CFH180). They rated the confidence level (high vs low) of each diagnosis according to the Narrow Band Imaging International Colorectal Endoscopic (NICE) classification. They used pathologic diagnosis made by central, blinded pathologists as the reference standard. We compared the feasibility and the diagnostic performance of close and standard view OD; and the agreement with pathology based surveillance intervals. **Results:** We detected 1309 polyps in 558 subjects in well-balanced study arms (Table 1); with 76.9% polypl and 60.0% adenoma prevalence. The polyps were predominantly ≤5 mm (74.5%); median 4 mm, range 1–60 mm. The majority was neoplastic (61.9%). Endoscopists were over twice as likely to make an OD of polyps with high confidence, when using the close view (85.9%) as compared to standard view (74.3%) colonoscopes, (OR 2.3; 95% CI, 1.6–3.2; p = 0.003). The high confidence OD had 96.8% and 92.5% negative predictive value with close and standard view, respectively, and high sensitivity (Table 2). The median diagnosis time per polyp was 15 seconds using close, and 12 seconds using standard views (p = NS). The endoscopists provided the appropriate surveillance interval recommendations in 518 patients, 92.8%, 95% CI: 90.4–94.8% of the cohort (93.5% for close view; 92.2% for standard view; p = NS), as compared with pathology based
recommendations. Incorrect recommendations were too early by $2.2 \pm 0.5$ years in the close-view; and either early or late in the standard view.

**Conclusion:** We observed evidence that real-time OD of all colorectal polyps can be applied in patient care. Use of colonoscopes capable of close-up view can lead to increased number of accurate OD. Endoscopists were twice as likely to make an OD of colorectal polyps with high confidence using colonoscopy with close view, as compared to the conventional standard view. The diagnoses were highly accurate and led to similar surveillance intervals as compared to those made based on pathology. NCT01288833.

**Key Word(s):** 1. colon polyps; 2. optical diagnosis; 3. resect and discard; 4. narrow band imaging;

### Table 2. Diagnostic Operating Characteristics of Optical Diagnosis, stratified by Confidence Levels

|                        | Close View Optical Diagnosis $n = 710$ | Standard View Optical Diagnosis $n = 599$ | P-value | Odds Ratio (95% CI) |
|------------------------|----------------------------------------|------------------------------------------|---------|---------------------|
| **Accurate High Confidence Predictions, n (%)** | 550 (77.5%) | 397 (66.3%) | 0.006 | 1.84 (1.38–2.45) |
| **High Confidence Endoscopic Diagnosis** | 610 (85.9%) | 445 (74.3%) | 2.26 (1.61–3.18) |
| Accuracy               | 90.2% (87.5–92.4) | 89.2% (86.0–91.9) |         |                     |
| Sensitivity            | 98.8% (97.1–99.6) | 96.5% (93.6–98.3) |         |                     |
| Specificity            | 73.2% (66.6–79.1) | 76.4% (69.1–82.7) |         |                     |
| Positive Predictive Value | 87.9% (84.6–90.8) | 87.8% (83.7–91.2) |         |                     |
| Negative Predictive Value | 96.8% (92.6–98.9) | 92.5% (86.6–96.3) |         |                     |
| **Low Confidence Endoscopic Diagnosis** | 100 (14.1%) | 154 (25.7%) | 0.003 | 2.26 (1.61–3.18) |
| Accuracy               | 60.0% (49.7–69.7) | 73.4% (66.7–80.2) |         |                     |
| Sensitivity            | 72.1% (56.3–84.7) | 78.8% (68.2–87.1) |         |                     |
| Specificity            | 50.9% (37.3–64.4) | 67.6% (55.7–78.0) |         |                     |
| Positive Predictive Value | 52.5% (39.1–65.7) | 72.4% (61.8–81.5) |         |                     |
| Negative Predictive Value | 70.7% (54.5–83.9) | 74.6% (62.5–84.5) |         |                     |

* Univariate logistic regression was performed using conditional random effects assuming a model at a single level of clustering by patient. The 8 polyps not retrieved were included in the analysis as incorrect endoscopic diagnosis. CI: Confidence Interval

**PR0018**

**Colonic and Anorectal Disorders**

**The expressions of Lgr5 and CD44 in intestinal polyps and their relations with colorectal cancer**

**Presenting Author:** NING-LI CHAI

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**Affiliations:** 301 Hospital

**Objective:** To study the expression of tumorigenesis related stem cell markers Lgr5 and CD44 in different pathological types of intestinal polyps and their clinical predictive significance. **Methods:** 145 cases of colorectal polyps, adenomas and cancer tissues were obtained by colonoscopy biopsy. Immunohistochemistry was employed to detect the expression of Lgr5 and CD44 to find out their relationship with the colon/rectum cancer occurrence and prognosis. **Results:** The expression of CD44 in colon cancer tissue was 95.65%, while it was also negative in normal colorectal tissue and was 16.12% in the inflammatory hyperplastic (P < 0.05). However, the expression rate of Lgr5 in both tubular adenoma (94.73%) and villous polyps (93.94%) were not distinguished different with that of colon cancer (P > 0.05). **Conclusion:** 1. Lgr5 and CD44 were highly expressed in colorectal cancer tissues which was consistency with the clinical and pathological features; 2. The expression of Lgr5 and CD44 were the notable features to distinguish colorectal cancer tissue cancer with normal intestinal mucosa. 3. The correlation between the expression of Lgr5 and the tumor progression of polyps was closer comparing to CD44. This means Lgr5 was a more ideal marker in the clinical diagnosis and treatment of polyps.

**Key Word(s):** 1. cancer stem cells; 2. Lgr5 and CD44; 3. colon polyps; 4. colorectal cancer;
**PR0019**

**Colonic and Anorectal Disorders**

Significance of blood platelets count and Coagulation in patients with ulcerative colitis (UC).

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**Affiliations:** Department of Gastroenterology, Hai Nan Provincial People’s Hospital

**Objective:** To study the detection and clinical significance of blood platelets count and Coagulation in patients with ulcerative colitis (UC).

**Methods:** The levels of peripheral blood platelets count (BPC) and coagulation in patients with UC (n = 57) and normal control group (n = 26) were detected and the effects on disease severity were analyzed subsequently.

**Results:** The levels of peripheral BPC and FIB in active phase group were significantly higher than those in control group (P < 0.01). PT in active phase group were significantly lower than those in control group (P < 0.01); the levels of peripheral blood platelets count (BPC) and FIB in severe stage were significantly higher than those in patients medium and mild stage. PT in severe stage were significantly lower than those patients in medium and mild stage (P < 0.01). Blood platelets count (BPC) were correlated with FIB in patients with UC, and were negative correlated with PT.

**Conclusion:** It is proposal that blood platelets count and Coagulation would provide useful maker of active of UC. They had important value to judge active phase and severity of UC.

**Key Word(s):** 1. Ulcerative colitis; 2. Blood platelets; 3. Coagulation;

**PR0020**

**Colonic and Anorectal Disorders**

BDNF enhances contractile activity in the isolated intestinal tracts of mice

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**Affiliations:**

**Objective:** As a member of the nerve growth factor family, brain-derived neurotrophic factor (BDNF), widely distributed in the central nervous system, plays fundamental roles in the differentiation, survival and maintenance of neurons. Besides these roles, BDNF has been implicated to enhance gastrointestinal motility. There are growing evidences to support this view. Patients with a variety of neurologic disorders or ALS who were treated with r-metHuBDNF appeared to have a dose-related “diarrhea.” A 2-week treatment with recombinant BDNF dose-dependently accelerated colonic emptying and increased stool frequency. In rats, BDNF has an excitatory effect on myoelectric activities of the colon. Endogenous BDNF enhances the peristaltic reflex by augmenting the release of serotonin and calcitonin gene-related peptide induced by mucosal stimulation. All these suggest that BDNF plays an important role in gut motor functions. However, there are no researches about the acute and direct effects of BDNF on the contractile activity in the isolated intestinal tracts of mice. In central, Binding of BDNF to TrkB dimers activates the phospholipase C (PLC) pathway, which results in the formation of the second messengers DAG and IP3 and calcium release from intracellular stores. So, wether BDNF influences gut motility through the PLC pathway.

**Methods:** 12-week-old C57BL/6 mouse to fast for 12-h before experiments were used. Mouse were sacrificed by cervical dislocation. The proximal colon and ileal strips (approximately 2 cm) were dissected in the distance of 2 cm from the cecum, and placed in Krebs–Ringer bicarbonate buffer (composition 118 mMNaCl, 4.7 mMKCl, 1.2 mMNaH2PO4, 2.6 mMNa2HPO4, 25 mMNaHCO3 and 11.5 mM d-glucose, pH 7.4) with carbogen (95% O2/5% CO2). The tissue was cut into small strips (about 2 mm wide and 5–6 mm long) which were longitudinally mounted in a 5-ml organ bath containing Krebs–Ringer bicarbonate buffer. The strips were allowed to equilibrate for 30–60 min with washout every 10 min and oxygenated with 95% O2 and 5% CO2 at 37°C. Tension of 0.5 g longitudinal muscles was slowly applied to the tissues before treating drugs. The strips were washed at least three times (5–10 min intervals) with Krebs–Ringer bicarbonate buffer between each experimental condition. BDNF (10–8 mol/L) and H2O (as control) were treated. All antagonists (TrkB-Ab, neomycin, heparin) used were pretreated for 3 min before adding BDNF. This study measured the average tension, frequency (per minute) and amplitude of rhythmic spontaneous contractility. Relative changes of drug-induced contractile responses to the control levels were calculated as percentage, (changed percentage = 100% × (response level – control level)/ control level).

**Results:** Stimulation of intestinal contractions the ileum and proximal colon longitudinal muscles showed spontaneous rhythmic contractions superimposed on the basal level before exposure to the agonists and/or antagonists. The vehicle (H2O 10 μL) did not affect the spontaneous contractions of ileum and proximal colon longitudinal muscles respectively. BDNF (10–8 mol/L) increased the mean amplitude of spontaneous contractions both in ileum (by 30.95% ± 11.64% n = 10 p < 0.05) and proximal colon longitudinal muscles (by 31.64% ± 13.58% n = 10 p < 0.05) when applied for 10 min. Although BDNF had little influence on the frequency and resting tension of ileum and proximal colon longitudinal muscles respectively. Inhibition of antagonists BDNF-intensified effects on ileum and proximal colon longitudinal muscles.
proximal colon longitudinal strips were significantly attenuated when these strips were pretreated with TrkB-Ab (10–8 mol/L) for 3 min (n = 10 p < 0.05). Pretreatment of ileum and proximal colon longitudinal strips with neomycin (10–4 mol/L), a blocker of PLC, and heparin (10–5 mol/L), an inhibitor of IP3 receptors, significantly inhibited the mean amplitude of BDNF-induced longitudinal muscle contractions. However, the frequency and resting tension of longitudinal muscles were not changed both in ileum and proximal colon. **Conclusion:** In summary, our results of this study demonstrate that BDNF is able to enhance contractile activity of the isolated intestinal tracts of mice acutely and directly. The mechanism of this effects is that BDNF binds to TrkB dimers to activate the PLC pathway, which results in the formation of the second messengers DAG and IP3 and calcium release from intracellular stores. The evaluation of intracellular calcium may induce BDNF’s effect on gut motility. However, the details of the mechanism should be investigated. Additionally, present study combined with previous studies suggest that BDNF might be worth reevaluating to explore the therapeutic potential in patients with disturbed gut motility, such as Hirschsprung’s disease, slow-transit constipation, or C-IBS. **Key Word(s):** 1. BDNF; 2. intestinal strips; 3. TrkB; 4. mice;

**PR0021**
**Colonic and Anorectal Disorders**
**The effect of miR-187 on the malignant behavior of colon cancer LOVO cell**
**Presenting Author:** ZHANG YONG-GUO
**Additional Authors:** GUO XIAO-ZHONG, LI HONG-YU, LI XUE-YAN, SHAO XIAO-DONG
**Corresponding Author:** GUO XIAO-ZHONG
**Affiliations:** General Hospital of Shenyang Military Area Command; General Hospital of Shenyang Military Area Command

**Objective:** To investigate the effect of miR-187 on the cell proliferation, cell apoptosis and metastasis of colon cancer LOVO cell. **Methods:** MiR-187 mimics was transfected into LOVO cell. MTT assays, flow cytometry assay, cell invasion and migration assays were performed to evaluate the effect of miR-187 on the cell proliferation, cell apoptosis and metastasis of colon cancer LOVO cell. **Results:** As indicated by MTT assay, compared with control cells, miR-187 mimics transfected LOVO cells showed a significantly increased rate of cell proliferation. Flow cytometry assay showed a decreased apoptotic index of miR-187 mimics transfected LOVO cells. Cell invasion and migration assays suggested miR-187 could promote the migration and invasion of LOVO cell in vitro. **Conclusion:** MiR-187 promotes the proliferation and metastasis of LOVO cells. These results suggest miR-187 play an important role in the malignant phenotypes of colon cancer. **Key Word(s):** 1. miR-187; 2. colon cancer; 3. proliferation; 4. apoptosis;

**PR0022**
**Colonic and Anorectal Disorders**
**DBC1 is over-expressed and associated with poor prognosis in colorectal cancer**
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**Objective:** Deleted in breast cancer 1 (DBC1) was initially cloned from a region homozygously deleted in breast cancers, but its role in colorectal cancer remains unknown. The present study aims to examine the expression level of DBC1 and assess its prognostic value in human colorectal cancer. **Methods:** Immunohistochemical staining was performed to detect the expression level of DBC1 in a series of 186 colorectal cancer patients. Immunohistochemical staining results were analyzed and compared statistically with various clinicopathological characters and overall survival. **Results:** Compared with the corresponding non-tumor tissues, a higher expression level of DBC1 was detected in colorectal cancer (P < 0.01). Tissue microarray analysis revealed that DBC1 expression is significantly associated with tumor histological grade, TNM stage and metastatic status (P < 0.01). Importantly, Kaplan–Meier analysis showed that DBC1 expression is associated with shorter overall survival (P < 0.01). Multivariate Cox regression analysis indicated that DBC1 acts as an independent prognostic factor in colorectal cancer (P < 0.01). **Conclusion:** These results suggest that DBC1 is overexpressed in colorectal cancer and that it might serve as a predictor for selecting patients at high risk of poor prognosis. **Key Word(s):** 1. DBC1; 2. Colorectal cancer; 3. Prognosis; 4. Tumor marker;

**PR0023**
**Colonic and Anorectal Disorders**
**The application of 3D high-resolution anorectal manometry in adults with functional constipation**
**Presenting Author:** ZOU DUO WU
**Additional Authors:** HAN XU, ZHANG LING
**Corresponding Author:** ZOU DUO WU
**Affiliations:** Changhai Hospital

**Objective:** To research anorectal dynamics of adult patients with functional constipation by three-dimensional high-resolution anorectal manometry. **Methods:** Twenty four patients with functional constipation and twenty six healthy people were undergone an examination of anorectal manometry by three-dimensional high-resolution anorectal manometry. **Results:** The rectal initial awareness of defeaction capacity, rectal pressure when simulated defeaction and anal residual pressure in patients with functional constipation were higher than that of the control group (P < 0.05). The anal maximum squeezing pressure, anal high pressure zone length, the maximum tolerance volume of the rectum and anal residual pressure in male patients with functional constipation were higher than women (P < 0.05). Anal resting pressure, anal maximum squeezing pressure, anal high pressure zone length, continuous extrusion time, rectal initial sensation capacity and maximum tolerance volume of the rectum had no significant difference between the two groups (P > 0.05). **Conclusion:** Patients with functional constipation had abnormalities in kinetics of anorectum and in sensory function, combination of three-dimensional high-resolution images can improve to clarify the categorization of functional constipation. **Key Word(s):** 1. FC; 2. 3D HRM; 3. anorectal motility; 4. adults;
PR0024
Colonic and Anorectal Disorders
Clinical analysis of 9 cases of Peutz-Jeghers syndrome
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Objective: To discuss the treatment of patients with Peutz-Jeghers syndrome (PJS). Methods: Clinical data were analyzed retrospectively in 9 patients admitted to our hospital from 2000 to 2012. Results: Mucocutaneous hyperpigmentation presented as dark or brown on the oral lips, buccal mucosa or extremities of limbs in 9 patients. Abdominal pain, diarrhea, hematochezia or melena was the major clinical manifestation, the more serious could cause intestinal obstruction and intussusception. All the 9 patients had polyps distributed from stomach to large bowel, a total of 725 polyps were resected endoscopically, pathological results: 51 cases had been proved to be hamartomatous polyps, 12 cases had adenomatous polyps and 2 cases had well differentiated adenocarcinoma. Conclusion: Early diagnosis, early treatment and follow-up of great concern to the patients with PJS. Positive treatment of polyps endoscopically was the main method to improve the long-term outcome of PJS.
Key Word(s): 1. P-J syndrome; 2. intestinal polyps; 3. endoscopy; 4. surgical operation;

PR0025
Colonic and Anorectal Disorders
Expression and significance of TLR4/NF-κB/IL-6 in murine colon tissue of ulcerative colitis
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Additional Authors: YANG XU, CHENG-GANG ZHANG
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Objective: To quantify expression of TLR4/NF-κB/IL-6 in ulcerative colitis and to investigate its role involving pathological mechanisms. Methods: The ulcerative colitis model was induced by 2, 4, 6-trinitrobenzenesulfonic acid (TNBS). Twenty-four SPF male Balb/c mice were randomly and equally divided into normal control group and model group. Rats were observed body weight changes, gross and histopathological changes. The TLR4 mRNA expression was detected by RT-PCR; The expression of NF-κB protein was detected by Western-blot; The expression of IL-6 in mice plasma was detected by ELISA method. Results: Compared with normal mice, the ulcerative colitis model with varying degrees of diarrhea and blood in stool, colonic mucosal hyperemia, edema, inflammation, showing a larger ulcer lesions. The ulcerative colitis model colon tissue TLR4 mRNA expression increased; NF-κB protein expression also increased significantly; IL-6 level in serum, model group (47.10 ± 15.72 ng/ml) had a significantly higher than control group (41.48 ± 6.33 ng/ml, P < 0.05). TLR4 mRNA expression, NF-κB protein expression and IL-6 level were significantly positive correlated (r = 0.79, P < 0.01). Conclusion: In ulcerative colitis, The expression of TLR4, NF-κB and IL-6 were up-regulated significantly, Activation of TLR4/NF-κB/IL-6 signal pathway may be a important mechanism.
Key Word(s): 1. ulcerative colitis; 2. TLR4; 3. NF-κB; 4. IL-6;

PR0026
Colonic and Anorectal Disorders
The correlation between serum folate levels and occurrence or recurrence of colorectal adenomas
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Affiliations: Renji Hospital

Objective: More than 3/4 of colorectal cancer develops from colorectal adenoma. There is a theory about colorectal cancer’s stage development of “normal epithelium-adenoma-cancer”, DNA methylation plays an important role in it. Folic acid is one-carbon units carrier which impacts DNA methylation. Folate level of colorectal epithelial cell can be reflect by serum folate level accurately. There are about the protective effect of folic acid from randomized trials. This dissertation aims to analyse the correlation between serum folate level and colorectal adenoma by cross-sectional and prospective follow-up study to provide theoretical support and experimental clinical intervention foundation.
Methods:

1. We performed a case-control study of total 1310 candidates of Renji Hospital Endoscopy Center. The placebo group included a total 888 candidates with normal colonoscopy results. Colorectal adenoma group included total 422 candidates with colonoscopy suggested polyp-like hyperplasia and pathologically confirmed colorectal adenomas. Among colorectal adenoma group we divided patients with pathological confirmed advanced adenoma to the advanced colorectal adenoma group with total 135 candidates of advanced adenomas. Cross-sectional situation was observed.
2. A prospective cohort study was performed, we randomly selected 190 candidates of placebo group and 175 candidates of colorectal adenoma group to follow-up with phone calls, questionnaires and colonoscopy. Relationship of adenoma occurrence and serum folate level was observed.

3. Social behavior information was recorded through questionnaire. Logistic regression was performed to control confounders and calculate risk of the independent risk factors that may affect colorectal adenoma occurrence and recurrence.

Results:

1. The average serum folate level was 7.76 ng/mL in placebo, 7.26 ng/mL in adenoma group, 6.95 ng/mL in advanced adenoma group, P value were 0.029 and 0.002 respectively.

2. Average serum folate level of no adenoma occurrence after follow-up was 7.89 ng/mL, new adenoma was 6.75 ng/mL, new advanced adenoma was 6.14 ng/mL. P value were 0.046 and 0.023 respectively. Average serum folate level of no recurrence after endoscopic adenoma removal was 8.04 ng/mL, new recurrence was 6.29 ng/mL (P = 0.002), new advanced adenoma recurrence was 6.01 ng/mL (P = 0.002).

3. Relative risk of serum folate level to classify colorectal adenomas was 0.996, while age was 1.010, BMI was 1.037, family history was 1.525 as well as medication history was 0.551. Relative risk of serum folate level to classify adenoma recurrence was 0.962 while drug history was 0.976.

Conclusion: People with higher serum folate levels have a lower risk of colorectal adenomas or advanced colorectal adenoma in both occurrence and recurrence.

Key Word(s): 1. Serum Folate Levels; 2. Colorectal Adenomas; 3. Advanced Adenomas; 4. Confounders;

PR0027
Colonic and Anorectal Disorders
Low endogenous IGF-1 and SCF levels contribute to diabetic colonic dysmotility
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Additional Authors: XINYU XU, YUEJI NING, YUFENG YUAN, LIN LIN
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Objective: To investigate whether the reduction of stem cell factor (SCF) was mediated by decreased endogenous IGF-1 in diabetic rat colon smooth muscle. Methods: Sixteen Sprague-Dawley rats were randomly divided into two groups: control group and streptozotocin induced diabetic rats. After 8 weeks of streptozotocin administration, colonic motility function and contractility of circular muscle strips were measured. The expression of endogenous IGF-1 and SCF were tested in colonic tissues. Colonic smooth muscle cells were cultured from normal adult rats. IGF-1 siRNA transfection was used to investigate whether SCF expression was affected by endogenous IGF-1 expression in smooth muscle cells, and IGF-1 induced SCF expression effects were studied. The effect of high glucose on the expression of endogenous IGF-1 and SCF was also investigated.

Results: Diabetic rats showed prolonged colonic transit time (252 ± 16 vs 168 ± 9 min, P < 0.01) and weakness of circular muscle contraction (0.81 ± 0.09 vs 2.48 ± 0.23 g, P < 0.01) compared with the control group. Endogenous IGF-1 and SCF protein expression were significantly reduced in the diabetic colonic muscle tissues. IGF-1 and SCF mRNA expression also showed a paralleled reduction in diabetic rats. In the IGF-1 siRNA transfected smooth muscle cells, SCF mRNA and protein expression were significantly decreased. IGF-1 could induce SCF expression in a concentration and time-dependent manner, mainly through the ERK1/2 signal pathway. High glucose inhibited endogenous IGF-1 and SCF expression, while the addition of IGF-1 to the medium reversed the SCF expression. Conclusion: Myopathy may resolve in colonic motility dysfunction in diabetic rats. Deficiency of endogenous IGF-1 in colonic smooth muscle cells caused reduction of SCF expression.

Key Word(s): 1. diabetes; 2. smooth muscle cells; 3. IGF-1; 4. stem cell factor;

PR0028
Colonic and Anorectal Disorders
Clinical research of correlation between diabetic colonic smooth muscle pathology and AGEs
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Objective: Smooth muscle dysfunction could impair the gastrointestinal motility. Advanced glycation end products (AGEs) participates diabetic complications. But no studies have reported AGEs is involved in diabetic colonic smooth muscle pathologies. The aim of present study was to describe detailed ultrastructural abnormalities in colonic smooth muscle of diabetic patients, determine AGEs levels in these patients’ colon and the expression levels of smooth muscle cells (SMCs) specific proteins, and if there are correlation between AGEs levels and SMCs specific proteins.

Methods: Colonic muscle tissues were collected from patients with colon surgical, and samples were resected 10 cm away from the edge of the colon lesions. Nε-carboxymethyl lysine (CML), an AGEs marker, in colonic muscle tissues samples was tested. Transmission electron microscopy was used to determine ultrastructural abnormalities in SMCs of diabetic patients. SMCs specific proteins in diabetic colon were measured and correlation between CML and these specific proteins was analyzed.

Results: Fifteen cases were included in control and diabetic group respectively, CML levels increased in colon muscle layer of diabetic patients. Ultrastructural abnormalities in colonic SMCs are: swollen mitochondria, increased dense band and dense body, increased caeolae and broken gap junction. There were no redundant collagen fibers in intercellular space. Expression levels of SMCs specific proteins (SM MHC and SM alpha-actin) were increased in diabetic colon tissues. There were positive correlation between CML levels and SMCs specific genes mRNA expression levels. Conclusion: Ultrastructural changes existed in colonic SMCs of diabetic patients, and these changes could be the basis of diabetic colonic motility disorders. There was an increased AGEs levels and smooth muscle cell specific protein expression in diabetic patients’ colonic muscle tissue. Correlation between AGEs and expression of smooth muscle cell
specific proteins was positive, which suggested that AGEs may involve in diabetic colonic smooth muscle lesions.

Key Word(s): 1. diabetes; 2. smooth muscle cells; 3. AGEs; 4. ultrastructure;

PR0029
Colonic and Anorectal Disorders
Clinical comparative of colorectal cancer between the elderly and
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Objective: Compared the clinical and pathological character-istics of colorectal cancer (CRC) between the elderly and the non-elderly patients, to improve the awareness and diagnosis and treatment of the elderly CRC.

Methods: A total number of 1343 patients with CRC from June 1, 2009 to May 31, 2012 in our hospital were included in this retrospective study. We extracted data on gender, ethnicity, blood type, duration, length of hospital stay, clinical manifestations, comorbidty, biochemical tests, tumor markers, tumor location, tumor size, histological, depth of invasion, surgical situation. We compared differences between an older group (OG) (age ≥ 60 years) and a young group (YG) (age < 60 years), so as to arrive at the clinical and pathological characteristics of colorectal cancer in the elderly. Results: There were 537 cases of OG in 1343 cases of CRC, accounted for 40% (537/1343). Single factor analysis show that OG patients were more proportion of Zhuang patients than YG, more proportion of disease duration less than 3 months, more likely to have a longer hospital stay, lower average BMI, less clinical symptoms, more distant metastasis, more comorbidty, lower preoperative HB and ALB, batter pathologic type. OG patients were less likely than YG patients to receive surgery, and more likely to receive postoperative complications. Conclusion: In comparison with younger patients, elderly CRC patients were with a high incidence, and differences were observed between the groups in clinical symptoms, comorbidty, histological, metastasis, postoperative complications.

Key Word(s): 1. colorectal cancer; 2. elderly; 3. young;

PR0030
Colonic and Anorectal Disorders
Acute radiation enteritis caused by dose-dependent radiation exposure in dogs
Presenting Author: XU WEN-DA
Additional Authors: CHEN JIANG, LIU XU, LI HONG-YU, GUO XIAO-ZHONG
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Objective: Accidental or intended radiation exposure in a mass casualty setting presents a serious and on-going threat. The development of mitigating and treating agents requires appropriate animal models. Unfortunately, the much research on radiation enteritis in mice lacks specific assessment and targeted therapy. Therefore, the study was directed to dose-dependent radiation experiments in large animal dogs with the aim of evaluating acute radiation syndrome. Methods: Beagle dogs (total 40, control group 4) treated by tridimensional conformal radiotherapy (3D-CRT) on abdominal irradiation were given single-dose from X ray at total doses ranging from 4–30 Gy and delivered at dose rates of 250 cGy/min. The degree of gastrointestinal (GI) tract injury for all animal models after radiation exposure within 30 days were evaluated from four aspects: clinical syndrome, endoscopic findings, histological features, serology characteristics. Results: With increasing totle dose, the degree of radiation enteritis and mortality were aggravated. The range of totle dose (4–14 Gy, 16–22 Gy, 24–30 Gy) represented the degree of injury (light, moderate and heavy), respectively. Acute radiation enteritis included clinical syndrome with vomiting, diarrhea, hemafecia and loss of weight; typical endoscopic findings with edema, bleeding, ulcer, mucosal abrasion and stricture; intestinal biopsy results with mucosal necrosis, erosion, loss and inflammatory cells infiltrated; The content changes of plasm diamine oxides (DAO) and D-xylose represented intestinal barrier function and absorption function correlated with damaged extent (P < 0.001 and P < 0.001 respectively). Conclusion: The method of assessment on the degree GI tract injury after abdominal irradiation would be beneficial to develop novel and effective therapeutic strategies for acute radiation enteritis.

Key Word(s): 1. radiation enteritis; 2. endoscopy; 3. diamine oxides; 4. D-xylose;
Three-dimensional high resolution manometry (3D-HRAM) imagery, combined with topographical mapping, provides a better understanding of the anorectal anatomy for increased diagnostic confidence than High-Resolution anorectal Manometry (HRAM) and Water-Perfused anorectal Manometry (WPAM). We aimed to compare measurement values, pressure morphology and patients’ tolerance as well as operators’ convenience of 3D-HRAM with HRAM and WPAM.

Methods: 26 asymptomatic subjects ranging in age from 20 to 66 years (median age 39 years) and 2 patients with dyssynergic defecation (anal sphincters dyssynergia and puborectalis dyssynergia, respectively) were included in the study. Subjects referred for anorectal manometry (ARM) underwent simultaneous 3D-HRAM, HRAM and WPAM in random order, and separated by 60 min. Subjects were asked to performed an balloon expulsion test (BET) and gave a visual analogue score (VAS) soon after each test. Anorectal pressures, rectal sensation, pressure morphology and balloon expulsion time were compared.

Results: Measurement values recorded by 3D-HRAM were significantly correlated with WPAM and HRAM. Except that anal sphincter pressures recorded by 3D-HRAM and HRAM tended to be higher than those recorded by WAPM, which may attributed to the first two’ circumferential measurement and the latter’s single-side point measurement method. The VAS score of subjects’ anal discomfort were higher when inserting 3D-HARM catheter than HRAM and WPAM catheters as well as the VAS score of rectal discomfort. By vector analysis of the pressure morphology of the two patients with dys-synergia provided by the three systems, we determined that 3D-HARM provided greater anatomic detail for anorectal motility disorder.

Conclusion: Most pressure measurements and rectal sensation except for anal sphincter pressures were consistent among the three systems. Patients tolerated better with WPAM and HRAM, while 3D-HRAM provided greater anatomic detail.

Key Words: 1. three-dimensional; 2. high resolution; 3. water-perfused; 4. anorectal manometry.

Objective: To study the effect of small interference RNA (siRNA) silencing RIP1 on the biological behavior of human colorectal carcinoma cell line LoVo and provide the basis evidence to the feasibility of colorectal cancer gene therapy.

Methods: To culture human colorectal cancer LoVo cells in vitro, LoVo cells were divided into three groups: the RIP1 siRNA group, the bland control group and the negative control group. Chemically synthesized siRNA targeting RIP1 (RIP1 siRNA) was transfected into LoVo cells with high metastatic potential by HiGene, and detecting the expression of RIP1 gene.

Results: The abilities of proliferation and invasion of LoVo cells were assessed by transfwell chamber invasion assay in vitro. Flow cytometry was used for cell cycle analysis. Reverse transcription-polymerase chain reaction (RT-PCR) was used to semi-quantify the RIP1 mRNA level. The abilities of proliferation were inhibited (0.560 ± 0.023 vs 0.930 ± 0.034, P < 0.05), and typical apoptosis cellular morphology of LoVo cells was observed under the inverted microscope, but the nonspecific RIP1 siRNA and the blank control group had no effect on LoVo cells. The motility and invasion of LoVo cells were inhibited significantly (21 ± 2.731 vs 43 ± 2.064), and the colorectal cancer cells penetrated polycarbonate membrane notable reduction. The nonspecific siRNA and the blank control group had no effect on LoVo cells. The number of cells in G0–G1 phrase increased in RIP1 siRNA group 58.28% in comparison with negative control 48.88% and blank control groups 43.82%. The nonspecific RIP1 siRNA and the blank control group had no effect on LoVo cells. In the RIP1 siRNA group, the RIP1 mRNA level was down-regulated remarkably (P < 0.05). After the transfection of the RIP1-targeted siRNA into LoVo cells, the expression of RIP1 gene has been knockedout effectively. Silencing rate of Notch1 was significantly higher in colon cancer tissues than adjacent non-cancerous colon tissues (70% vs. 30%, P < 0.05), and the expression of Notch1 was closely related to differentiation grade (P < 0.05). The positive rate of p-Akt was significantly higher in colon cancer than adjacent non-cancerous colon tissues (83.33% vs. 16.67%, P < 0.05), and the expression of p-Akt was closely related to differentiation grade and lymph node metastasis (P < 0.05). There was positive correlation between the expression of Notch1 and p-Akt protein in colon cancer 

Conclusion: The abnormal expression of Notch1 and p-Akt may correlate to the occurrence and development of colon cancer.

Key Words: 1. Notch1; 2. p-Akt; 3. Colon cancer;
RIP1 could regulate the malignant biological behaviors of colon cancer cell line LoVo effectively. The abilities of proliferation and the motility and invasion of LoVo cells were inhibited. The results shown that RIP1 gene played the important role of the proliferation and apoptosis regulation in colorectal carcinoma cells.

Key Word(s): 1. RNA interference; 2. RIP1 gene; 3. Colorectal carcinoma;

PR0034
Colonic and Anorectal Disorders
C9orf140 in the promotion of colorectal cancer invasion via activation of STAT5, β-catenin, and EZH2
Presenting Author: YU-RONG WENG
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Objective: C9orf140 is a newly identified and characterized gene which is associated with cell proliferation and tumorigenicity. Expression of C9orf140 is upregulated in human gastric cancer and colorectal cancer (CRC); however, little is known about its role in CRC invasion.

Methods: We have investigated the clinical significance, biological effects and mechanisms of C9orf140 signaling. Results: Our finding showed that knockdown of C9orf140 significantly reduced cell invasion in vitro and dramatically increased overall survival and decreased lung metastasis in vivo. Conversely, overexpression of C9orf140 significantly increased lung metastasis and shortened overall survival when compared with control tumors. C9orf140-induced CRC cell invasion may depend on promoting the epithelial-mesenchymal transition (EMT) progression. STAT5 may directly interact with the enhancer of zeste homolog 2 (EZH2) and β-catenin to enhance C9orf140 gene transactivation. High expression of C9orf140 occurs in a subset of CRC and correlates significantly with vascular invasion and lymph node metastasis. Conclusion: We describe a mechanism for C9orf140 in CRC invasion and propose that C9orf140 overexpression may be a good prognostic factor for survival in female CRC patients.

Key Word(s): 1. C9orf140; 2. CRC invasion; 3. STAT5; 4. EZH2;

PR0035
Colonic and Anorectal Disorders
Structural of gut microbiota and dietary fiber intake in human with colorectal adenoma
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Objective: Epidemiological and experimental studies have demonstrated the difference of dietary fiber intake and gut microbiota in patients with colorectal adenoma (CRA) or colorectal cancer (CRC) from healthy subjects. Methods: Patients diagnosed with CRA by pathological examination were enrolled in the CRA group. Subjects without any obvious abnormalities or histopathological changes were enrolled in the healthy control (HC) group. 47:47 gender and age-matched individuals in the two groups completed the food frequency questionnaire and provided feces samples. Dietary fiber intake was assessed in all patients. Short-chain fatty acids (SCFA) in feces were detected by gas chromatography. The fecal microbiota community was analyzed by 454 pyrosequencing based on 16S ribosomal RNA. Results: Dietary fiber intake and yields of fecal SCFA in the CRA group were decreased from that in the HC group (all P < 0.05), the major SCFA product was acetate, followed by butyrate and propionate. PCA analysis displayed altered fecal gut microbiota communities in CRA compared with HC group. Intestinal microbiota, including butyrate-producing bacteria (Clostridium, Roseburia and Eubacterium spp.), were significantly lower in the CRA group (P < 0.05). Both butyrate and butyrate-producing bacteria were more abundant among subjects having high fiber intake than that in the low fiber intake subgroup in the two groups. Our findings suggest that the butyrate-producing bacteria play important roles in protecting hosts from CRA by modulating the fermentation of dietary fiber and the production of SCFA. Conclusion: The reduced production of fecal SCFA was the result of decreased dietary fiber intake and structural alteration of gut microbiota in patients with CRA.

Key Word(s): 1. gut microbiota; 2. dietary fiber; 3. colorectal adenoma; 4. SCFA;

PR0036
Colonic and Anorectal Disorders
The experience of endoscopic submucosal dissection of early colorectal lesions in Southern Taiwan
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Objective: Colorectal cancer is the third leading cause of cancer death in Taiwan. 1. Endoscopic submucosal dissection (ESD) enables en-bloc resection of gastrointestinal tumors without size limitations, which is crucial for better histological evaluation and improves rates of curative resection. ESD for colorectal neoplasia was started in our hospital in 2010. The clinical data from our hospital will be reviewed to assess the efficacy and safety of endoscopic submucosal dissection of colorectal neoplasms. Methods: From July 2010 to March 2013, 39 consecutive patients with early colorectal neoplasms were treated by ESD at Yuan’s General Hospital. Size of the colorectal neoplasms, en-bloc resection rate, and complication rates were compared to several published data. In addition, lesion sizes, type of lesions, complication, and procedure time were compared between the rectal vs non-rectal lesions in our study. Results: The mean age of the patients was 65.07 ± 9.50 years, and the male-female ratio was 1.05:1. The mean tumor size was 32.5 ± 13.2 mm. The en-bloc resection rate was 87.8%, which is comparable to other studies performed in other centers. Postoperative bleeding occurred in 1 patient (2.43%), and no delayed perforation recorded. There were no procedure-related morbidities or mortalities. Merely half (52.17%) of the LST in non-rectal lesions were non-granular type. All the LST in rectum were granular type in our study. Among all the lesions occurred in rectum, 61.10% turned out to be malignant; whereas only 21.7% were malignant in the non-rectal lesions. Rectal lesions required longer procedure time for removal; 73.28% were comparable to many other centers in Asia. Conclusion: ESD is an effective method for en-bloc resection of large early colorectal neoplasms. Even though, our center commenced to perform ESD not so long ago, we have achieved comparable colonoscopic ESD results in terms of efficacy and safety compared to many other centers in Asia.

Key Word(s): 1. ESD; 2. Colon;
**PR0037**  
**Colonic and Anorectal Disorders**  
**A case of hirschprung disease in adult**  
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**Gastroenterology & Endoscopy**

**Objective:** Hirschsprung disease is a digestive tract malformations, the basic pathogenesis of it is the lack of ganglia cell in the large bowel wall. The absence of these gangia cell paralyses the involved segment leading to cramps, narrow and intestinal contents through with difficulty. Almost patients are diagnosed when there are babies and operated upon in their first year. Hirschprung’s disease is a rare condition in the adult.

**Methods:** A 58-year-old female came to the hospital because of belly-ache and abdominal distension of 4 years duration, aggravating for 4 months, accompanied by constipation, vomit and the weight is reduced about 10 Kg in one month. As background, she said this symptom happened 4 years early, but not seriously so she didn’t care. Physical examination revealed an important thinness, and a large mass in the upper left abdomen, of mobile and painless, tympanitic percussion note.  

**Results:** Abdomen X-ray examination showed large dilatation of descending colon, with distal air. Computed tomography disclosed a highly dilated sigmoid colon containing feces inside in the left abdomen, enteric cavity is stricture (Fig. 1). These radiological images were consistent with volvulus of sigmoid colon.  

**Conclusion:** This patients then taken to the operating room, we found large dilatation from ascending colon to sigmoid colon, then we resected surgically the lesion colon, all the symptom and the mass disappeared. Therefore, a full thickness colon biopsy was performed, where ganglion cells were absent (Fig. 2), what confirmed the diagnosis. After 3 months later when we called for this patient, all the discomfort disappeared.

**Fig. 2** Full thickness colon biopsy showing the lack of ganglion cells (20x)

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**PR0038**  
**Colonic and Anorectal Disorders**  
**Clinical characteristics of colorectal cancers in the past 12 years in Southern China**  
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**Additional Authors:** WANWEI LIU, WEIMING LIANG, QIYI WANG, WEIHONG SHA  
**Corresponding Author:** WEIHONG SHA  
**Affiliations:** Guangdong General Hospital

**Objective:** It is reported that the incidence of colorectal cancer (CRC) increases with the changes of lifestyle and dietary structure. The clinical characteristics of colorectal cancer (CRC) may also be changed. So the aim of present study was to analysis the clinical characteristics of CRCs in southern China. **Methods:** Clinical datas of all consecutive patients accepting colonoscopy in Guangdong General Hospital from 2001 to 2012 were collected. The sociodemographic data, endoscopic descriptions, and histological subtypes of patients confirmed as CRC by pathology were compared in each 6 years. **Results:** Totally, there were 44,649 patients accepted colonoscopy from 2001 to 2012, in which 2,569 patients were diagnosed as CRC with an overall detection rate of 5.8% (rang 4.6–7.1%). The overall median age of CRC patients was 63 years old (rang 15–98 years), those in the latest period (2007–2012, 64 years) was getting older than that in the previous period (2001–2006, 63 years, P = 0.047). Ratio of male to female was 1.38 : 1. The percentages of CRC in rectum, left-sided and right-sided colon was 40.7%, 31.6% and 27.7%, respectively. The most common site distributions were rectum (40.7%) with the average distance of 8.0 cm away from the anal verge, followed by sigmoid colon (22.9%) and ascending colon (11.2%). In addition, there was an escalating trend of the incidence of right-sided colorectal cancers with 43.1% (2001–2006) to 49.0% (2007–2012, P = 0.025). Histologically, adenocarcinoma was the most common subtype (2501/2569, 94.9%). More early stage CRCs were detected in latest period (5.9%, 2007–2012) than that in the previous period (4.0%, 2001–2006; P = 0.035). **Conclusion:** CRCs are more found in male patients and the age of onset becomes older, while the detectable rate of early stage tumor is rising. The most common site of CRC remains rectum, and a rightward shift in the site distribution has occurred.

**Key Word(s):** 1. Colorectal cancer; 2. Colonoscopy; 3. Early stage tumor; 4. Rightward shift;

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**PR0039**  
**Colonic and Anorectal Disorders**  
**siRNA expression vector targeting AEG-1 inhibits tumor growth in human colon cancer cells**  
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**Objective:** Astrocyte elevated gene-1 (AEG-1), upregulated in various types of malignancies including colorectal cancer, has been reported to be associated with the carcinogenesis of human cancer. However, the functional significance of AEG-1 in human colon cancer remains unclear. The aim of this study was to investigate whether AEG-1 could serve as a potential therapeutic target of human colon cancer. **Methods:** We document that AEG-1 expression is high in human colon cancer cell lines HCT116 but relatively low in SW1116 by Western Blot. RNA interference was used to reduce AEG-1 expression in HCT116 and their phenotypic changes were analyzed. Meanwhile, the expression of AEG-1 in SW1116 were enhanced to analyzed their phenotypic changes. Moreover,
PR0040
Colonic and Anorectal Disorders
Intussusception caused by a lipoma in the splenic flexure: A case report and review of literature
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Objective: Intussusceptions were first described in 1674 by Barbette of Amsterdam.1 Their occurrence in adults is rare, accounting for less than 5% of all cases of intussusceptions and almost 1%–5% of bowel obstruction.1 Lipomas are relatively uncommon, slow-growing, benign, non-epithelial, fatty tumors that can be found throughout the gastrointestinal tract, although most frequently seen in the colon.2,3 They were first described by Baurer in 1757.4 The reported incidence of lipomas in the large intestine ranges from 0.2%–4.4%.4 The clinical presentation is very nonspecific and runs a silent clinical course which makes this a difficult condition to diagnose.2

Methods: We present a case of a 72 year old female with an intussusception caused by a colonic lipoma presenting with an eight months history of recurrent left lower quadrant pain with intermittent diarrhea. Results: We present a case of a 72 year old, diabetic and hypertensive female with an eight months history of recurrent left lower quadrant pain with intermittent diarrhea. There were no other associated symptoms such as weight loss, constipation, abdominal enlargement, vomiting, and hematochezia. Patient has no previous colonoscopy. Physical examination revealed mild direct tenderness at the left hemiabdomen on deep palpation. Patient underwent colonoscopy which showed an intraluminal, well-circumscribed mass covered with yellowish material, almost completely obstructing the lumen, which served as the lead point for the intussusception (Figure 1). No biopsy was done during the colonoscopy. Whole abdominal CT scan with contrast showed a well-circumscribed and lobulated fat-attenuated mass (-76 to −120 HU) within the splenic flexure, measuring about 2.9 × 2.4 × 3.2 cm causing near complete luminal occlusion of the colonic segment (Figure 2, 3). There is an incidental finding of small cholecystolithiasis. Other laboratory findings include the following: CEA 0.91, hemoglobin 137, hematocrit 0.44, and platelet count 365. Chest X-ray revealed mild left lower lobe pneumonitis versus fibrosis. Patient underwent exploratory laparotomy exposing a 4 × 4 cm fatty intramural mass at the splenic flexure with mucosal ulceration and signs of chronic inflammation and subsequently segmental colectomy (Figure 4) with cholecystectomy. Histopathology exam showed intramural lipoma in the colon characterized by the presence of mature adipocytes with a few inflammatory cells in the mucosa (Figure 5) and reactive lymphadenitis. Patient had an uneventful postoperative course and was discharged after 8 days of hospital stay. Conclusion: Lipomas are unusual benign tumors of the gastrointestinal tract. Accurate preoperative diagnosis remains a challenge because most patients remain asymptomatic. In rare instances, they can cause intussusception. In cases complicated by intussusception or bowel obstruction, surgery remains to be the treatment of choice.

Key Word(s): 1. intussusception; 2. colonic lipomas; 3. adult;

PR0041
Colonic and Anorectal Disorders
Glucose concentrations affect the ultrastructure, stell cell factor expression of colonic smoth muscle cell
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Objective: To investigate the influence of glucose on the ultrastructure, stell cell factor (SCF) expression of colonic smooth muscle cell (SMC).

Methods: SMCs were cultured at different glucose concentration (5.55, 25, 33.3, 55.5 mmol/L) for 20 days. SMC ultrastructure was observed under the electron microscope; excluding the influence of glucose seepage pressure on Ins-induced SCF via supposing three matched groups: 5.55 mmol/L glucose plus 19.45 mmol/L mannitol, 5.55 mmol/L glucose plus 27.75 mmol/L mannitol, 5.55 mmol/L glucose plus 49.95 mmol/L mannitol. The expression of SCF protein was tested with Western-Blot.

Results: The effect of different concentrations of glucose on the ultrastructure, proliferation, SCF expression of colonic SMC: At glucose concentration of 5.55 and 25 mmol/L, SMC organelles arranged regularly and maintained structural integrity with the latter more abundant mitochondria; When it was at 33.3 mmol/L, mitochondrial degeneration were observed; At 55.5 mmol/L, both the swelling of the endoplasmic reticulum and cytoplasm dissolved occurred. Compared with 5.55 mmol/L, the expression of SCF was abundant at glucose concentrations of 25 and 33.3 mmol/L, scanty at 55.5 mmol/L. Conclusion: Some degree of hyperglucose is in favour of the expression of SCF in SMC. Excessively hyperglucose can damage the SMC ultrastructure.

Key Word(s): 1. Glucose; 2. stell cell factor; 3. smoth muscle cell;
**PR0042**

Colonic and Anorectal Disorders

Insulin and glucose concentration affect proliferation of colonic smooth muscle cells

**Objective:** To investigate the influence of insulin and glucose on the proliferation and the SCF expression of colonic SMC. **Methods:** SMCs were cultured at different Insulin concentrations (0, 2.5, 5, 20, 40 and 80 mg/L) for different durations (0, 8, 16 and 24 hours); MTT was used to test the proliferation of SMC; SMCs were cultured at different glucose concentration (5.55, 25, 33.3, 55.5 mmol/L) for 20 days. SMC ultrastructure was observed under the electron microscope, the proliferation of SMC was tested by MTT. **Results:** The effect of different concentrations of Ins on the proliferation and the SCF expression of colonic SMC. At concentration of 5 mg/L, Ins showed remarkable role in SMCs proliferation, the same to the concentrations of 20, 40, 80 mg/L. The SMCs incubated at glucose concentrations of 25, 33.3 mmol/L proliferated relative rapidly; At glucose concentrations of 55.5 mmol/L, the SMCs increased slowly. **Conclusion:** A certain concentration of Ins can promote SMC proliferation; Some degree of hyperglucose is in favour of SMC proliferation.

**Key Word(s):** 1. Insulin; 2. glucose; 3. smooth muscle cells;

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**PR0043**

Colonic and Anorectal Disorders

Diagnostic value of stool DNA test for multiple markers of colorectal cancer and advanced adenoma: A meta-analysis

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**Objective:** The diagnostic value of stool DNA (sDNA) testing for colorectal neoplasms remains controversial. To compensate for the lack of large-scale unbiased population studies, we performed a meta-analysis to evaluate the diagnostic value of sDNA testing for multiple markers of colorectal cancer (CRC) and advanced adenoma. **Methods:** We designed and conducted the meta-analysis using random-effects model using sensitivity, specificity, diagnostic odds ratio (DOR), summary receiver-operating characteristic (sROC) curves, area under the curve (AUC), and 95% confidence intervals (95% CIs) as effect measures. Heterogeneity was measured by the Chi-squared test and Q-statistic, and subgroup analysis. Between April 2012 and April 2013, Affiliated Hospital of Hainan Medical University of gastrointestinal motility chamber with outlet obstruction constipation in patients with a total of 60 cases. Two weeks after the completion of the virtual biofeedback therapy, all patients were randomly divided into 2 groups: group A: adaptive biofeedback treatment group, Group B: fixed biofeedback treatment group. Biofeedback treatment of group A and B group according to 1 : 1 proportion distribution. **Results:** 1. Compared with adaptive biofeedback treatment system with fixed biofeedback therapy in patients with defecation condition changes. 2. Comparison of two methods in the treatment of patient satisfaction with treatment process. 3. Comparison of two methods for the treatment of patients to reduce the cathartic situation. 4. Comparing two treatments for patients after the overall quality of life scores (SF – 36 life quality scale assessment) and psychological evaluation (Application of Zong’s depression and anxiety scale) 5. Comparison of two methods for determination of after treatment of patients with gastrointestinal motility improvement, including rectum and anal canal pressure gradient, rectal distention threshold, training rectal pressure increase and anal canal pressure decrease. Adaptive biofeedback treatment group were superior to fixed biofeedback treatment group (p < 0.05). **Conclusion:** From the point of the pathogenesis, adaptive biofeedback treatment system can more efficiently remove obstructed constipation in patients with pain, from patients with high efficiency, simple and training process of the diagnosis and treatment of interesting and enjoyable feeling are incomparable fixed biofeedback treatment system.

**Key Word(s):** 1. adaptive biofeedback; 2. constipation; 3. pathogenesis;

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**PR0045**

Colonic and Anorectal Disorders

Inhibition of AGR2 by RNA interference suppresses progression in colorectal carcinoma

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**Objective:** Anterior gradient 2 (AGR2) is said to be a prognosis factor in the colorectal cancer patients. Its expression in the serum shows an important role in the occurrence, development and metastasis of colon cancer. However, the mechanism is still unclear. **Methods:** We designed and constructed the expression plasmids with small interfering RNA (siRNA) aiming at AGR2, then transfected into colon cancer cell line SW620 by
Colonic and Anorectal Disorders

IGF-1 suppresses colonic SMCs apoptosis in DM colonic dysmotility rats via PI3K/Akt and ERK/MAPK signaling pathways

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Objective: Colonic dysmotility is one of the common complications of diabetes. The aim of the study is to explore the changes of the colonic smooth muscle cells apoptosis levels in the diabetic colonic dysmotility rats and the effect and regulation mechanism, especially signaling pathways, of IGF-1 in the cell apoptosis. Methods: Sprague-Dawley rats and cultured colonic smooth muscle cells were used during in vivo and in vitro studies. Blood glucose, gastrointestinal transit rate and plasma IGF-1 of rats at termination were recorded. Colonic smooth muscle thickness and the level of smooth muscle cells apoptosis were detected. The active of PI3K/Akt and ERK/MAPK signaling pathways was also evaluated. In this process, real-time fluorescence quantitative PCR, western blot analysis, terminal transferase dUTP nick end labeling assay, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay and flow cytometric analysis were used. Results: Compared with the normal rats, gastrointestinal transit rate and muscle thickness were decreased, and the ratios of Bax/Bcl-2, Caspase-3 activity and apoptosis index were enhanced in the diabetes rats (P < 0.01). The IGF-1 treatment could reverse the changes above. More importantly, in the anti-apoptotic process, the expression of p-AktSer473 and p-ERK1/2 protein were enhanced (P < 0.01). When the signaling pathway inhibitors were used, increased the apoptosis levels and decreased the protein (p-AktSer473 and p-ERK1/2) expression were observed (P < 0.01). Conclusion: Diabetes and its colonic dysmotility might be related with the increase of the colonic smooth muscle cells apoptosis. IGF-1 had anti-apoptosis effects partly through the activation of the PI3K/Akt and ERK/MAPK signaling pathways.

Key Words(s): 1. Diabetes Mellitus; 2. Colonic Dysmotility; 3. Apoptosis; 4. Signal Transduction;
of simple adenomas, accounting for 62.38% (villous adenomas of 968, accounting for 62.43%; tubular adenomas of 921, accounting for 22.92%; villous-tubular adenomas of 623, accounting for 15.47%).

2. 525 cases of pathologically were confirmed high-grade intraepithelial neoplasia, about 750 lesions, accounting for 18.62%. There were 610 lesions of severe dysplastic, accounting for 15.15%; 84 lesions of mucosa cancer, accounting for 2.09%, 56 lesions of carcinoma in situ, accounting for 1.39%; 5 cases of early cancer, accounting for 0.12%; 6 case of invasive carcinoma, accounting for 0.15%.

3. Lesions in the cecum of 60, accounting for 1.49%; 362 located in the sigmoid colon 1440, accounting for 35.76%; located in the transverse colon 451, accounting for 11.4%; 282 lesions in the descending colon 451, accounting for 11.27%; 90 is located in the splenic flexure, accounting for 2.23%; located descending colon 451, accounting for 11.4%; located in the sigmoid colon 1440, accounting for 35.76%; located in the rectum of 1019, accounting for 25.3%. There were 10 lesions in the cecum (1.01%), 53 lesions in the ascending colon (7.07%), 37 lesions in the hepatic flexure (4.93%), 68 lesions in the transverse colon (9.07%), 56 lesions in the splenic flexure (7.46%), 93 lesions in the descending colon (12.4%), 282 lesions in the sigmoid colon (37.6%), 151 lesions in the rectum (20.1%), among the 750 high-grade intraepithelial neoplasia lesions. The location of the high-grade intraepithelial neoplasia (HIN) and the colorectal polyps was highest incidence in sigmoid, followed by the rectum, and lowest incidence in cecum. HIN and colorectal polyps showed a positive correlation ($r = 0.123$, $p < 0.01$). And the complications of endoscopic treatment were positively correlated to the lesion pathological features ($p = 0.057$, $p < 0.05$). 5 cases of early cancer were confirmed by pathologically, while 4 of them were to follow-up with the basal cutting edge no residual, no submucosal vascular invasion; 1 case of basal cutting edge can not be determined, be turned to surgical treatment. 6 cases of pathologically confirmed invasive cervical cancer, 4 of them with partial lifting were not ideal, to give up completely endoscopic resection. 2 cases flattering good were resected as whole, were transferred to surgery.

4. In this study, 110 patients met the inclusion criteria were follow-up (at least 2 times, more than 6 months), no recurrence and cancer cases, only one case with recurrent. Monitoring interval were carried out with the period of 48 cases (43.64%) in 6 months, 53 cases (48.18%) in 12 months, 9 cases (8.18%) in 24 months.

**Conclusion:**

1. HIN was highest incidence in sigmoid, followed by the rectum, and lowest incidence in cecum, showing a positive correlation in distribution with the bowel polyps.
2. It was less complications by endoscopic whole tumor biopsy, and the complications were positively correlated to the lesion pathological features.
3. The accuracy of pathological diagnosis was improved by endoscopic whole tumor biopsy.
4. The follow-up showed that endoscopic resection of HIN has reached a radical effect.

**Key Word(s):** 1. HIN; 2. Colorectal/Pathology; 3. Endoscopic excision; 4. Follow-up;

**Figure 1.** AT4, AT6, XBP1 expression detected by immunohistochemistry. A1: normal colonic mucosas($\times 200$); A2 colorectal adenomas($\times 200$); A3: colorectal adenocarcinomas($\times 200$); B1: normal colonic mucosas($\times 200$); B2 colorectal adenomas($\times 200$); B3: colorectal adenocarcinomas($\times 200$); C1: normal colonic mucosas($\times 200$); C2 colorectal adenomas($\times 400$); C3: colorectal adenocarcinomas($\times 200$).
Objective: To determine the value and sensitivity of air insufflation computed tomography (CT) on diagnosis of esophageal submucosal tumors (SMTs). Methods: Conventional CT and air insufflation CT were performed on 40 patients who had been confirmed esophageal SMTs by gastroscopy and endoscopic ultrasonography (EUS). Air insufflation CT procedure: 1) Patient fasted for 4–6 h; 2) inserting a nasogatric tube into esophageal lumen 30 cm from the incisors; 3) connecting a air bag to nasogatric tube and insufflating air continually by pressuring the air bag; 4) performing chest CT scan after 5 seconds with patient’s mouth closed.

Results: The sensitivity for detecting esophageal SMTs of conventional CT was 57.5% (23/40) compared with that of air insufflation CT (90.0%, 36/40), the difference was of statistical significance ($X^2 = 15.21, P < 0.05$). Furthermore, lesions were showed more clearly by air insufflation CT (Figure. 1). Compared lesion size on air insufflation CT with that after resection, 9 cases revealed measurement error more than 30%, but EUS finding matched excisional specimen in 4/9 cases; compared lesion size on EUS with that after resection, 8 cases revealed measurement error more than 30%, but air insufflation CT finding matched excisional specimen in 3/8 cases. Conclusion: Air insufflation CT is more effective and significant than conventional CT on diagnosis of esophageal SMTs. Combined with EUS, air insufflation CT has added value in evaluating the origin of esophageal SMTs and the anatomic features of adjacent structures which benefit to predict the risk of endoscopic treatment and surgery.

Key Word(s): 1. air insufflation CT; 2. SMTs; 3. diagnosis; 4. EUS; 5. CT CT view of esophageal SMT before air insufflation; 6. CT view of esophageal SMT after air insufflation

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Objective: Magnified observation of detailed mucosal structure and blood vessels using the narrowband imaging (NBI) system has become very common in recent years. Implementing the NBI system requires time and cost, however. On the other hand, a clear image can be obtained of vascular lesions using monochrome mode, which is an endoscopic observation function originally featured in the LUCERA system (CV-260, Olympus co., Tokyo). The aim of this study was to evaluate the usefulness of endoscopic observation methods using monochrome mode for vascular lesions compared with the current NBI system. Methods: From May 2009 to September 2012, 14 cases (VE: vascular ectasia, 8 cases; GAVE: gastric antral vascular ectasia, 2 cases; RC: radiation colitis, 4 cases) were enrolled in this study. For these cases, 28 images were taken (close view: 14 images, distant view: 14 images) in the same situation using each of normal mode, NBI mode and monochrome mode (MONO mode). Normal mode observation was defined at 5 points. A total of 84 images (28 images for each of three modes) were evaluated by 15 trainee doctors with little experience of endoscopy, on a scale of one to ten, for each of three modes. The scores for NBI mode (a: 5.37, b: 5.50, c: 5.06) and MONO mode (a: 5.33, b: 5.44, c: 5.02) showed almost the same evaluation results, and they were better than in normal mode. In the close view, the scores for NBI mode were better than with MONO mode for recognition of the lesion (a: 5.72 vs. 5.43, $p < 0.05$) and observation of the background mucosa (c: 5.51 vs. 5.17, $p < 0.05$). However, although there was no significant difference in the distant view, better results were obtained for all factors with MONO mode (a: 5.23, b: 5.17, c: 4.86) compared with NBI mode (a: 5.03, b: 5.01, c: 4.62). The brightness of the field of view obtained using MONO mode, even in the distant view, was considered to be a reason for the results. Moreover, MONO mode was effective for observation of remaining blood vessels after APC ablation for GAVE and RC, as an evaluation of endoscopic treatment. Conclusion: Monochrome mode is convenient and useful in endoscopy for observation of vascular lesions.

Key Word(s): 1. monochrome mode; 2. vascular lesions; 3. NBI;
PR0052
Endoscopy and Imaging (Diagnostic Imaging)
Value of EUS-FNA for extramural lesions of the upper gastrointestinal tract
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Objective: To evaluate significance of Endoscopic ultrasound-guided fine-needle aspiration biopsy (EUS-FNA) in diagnosis extramural lesions of the upper gastrointestinal tract. Methods: EUS-FNA was performed in 71 patients with pancreatic lesions, mediastinal and retroperitoneal masses detected by ultrasonography, Computed Tomography (CT) or clinical suspected diagnosis, 33 of the 71 are pancreatic lesions, 25 are mediastinal masses, and 13 are retroperitoneal masses, cytological and pathological evaluation were performed, flow cytometry was performed when necessary. Results: (1) The overall diagnosis sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) accuracy of EUS-FNA were respectively 82.2%, 100%, 76.5%, 88.7%. sensitivity, negative predictive value (NPV), accuracy are lower than that reported by other authors abroad, this may be in relation to the size of lesions, needles, passes, suction and on-site cytopathologist. (2) Pancreatic lesions had lower NPV than other lesions. Because pancreatic carcinoma that is usually associated with chronic pancreatitis, areas of fibrosis, necrosis and heterogeneity of tumors, Bruno et al. Demonstrated that EUS-FNA has a NPV of 100% if tumors without chronic pancreatitis (3) The accuracy of EUS-FNA was not associated with mass size, with adequate visualization of lesions, accurate targeting of lesions and optimal needle insertion, satisfactory results can be obtained. Conclusion: EUS-FNA is a safe, accurate and successful procedure in the diagnosis extramural lesions of the upper gastrointestinal tract regardless its size.

Key Word(s): 1. EUS-FNA; 2. Mediastinal mass; 3. Pancreatic lesion; 4. Retroperitoneal mass;

PR0053
Endoscopy and Imaging (Diagnostic Imaging)
Effectiveness and safety of ESD compared with EMR for early esophageal cancer: A meta-analysis
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Objective: In recent years, endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) have been developed as new treatment methods for early esophageal cancer in a few of large hospitals, but their effectiveness and safety are still lack of enough understanding. We compared the effectiveness and safety of these two methods in treating early esophageal cancer by the method of meta-analysis. Methods: Databases, including Medline, EMBASE, The Cochrane Library, Wanfang, VIP and CNKI were searched to identify the studies comparing ESD with EMR for early esophageal cancer. In the meta-analysis, primary end points were the rates of en bloc resection and the curative resection; secondary end points were rates of local recurrence, perforation, bleeding, and stenosis. Results: Eight nonrandomized studies (five full-text and three abstracts) were studied. Meta-analysis showed higher rates of en bloc resection (360/366, 98.36% vs 252/603, 41.79%, P<0.01) and curative resection (168/185, 90.81% vs 194/383, 50.65%, P<0.01) in ESD compared with EMR irrespective of lesion size. Local recurrence was lower with ESD (2/366, 0.55% vs 83/603, 13.76%, P<0.01). But ESD had higher rate of perforation than EMR (21/466, 4.51% vs 8/640, 1.25%, P=0.03), and showed no difference in procedure-related bleeding and stenosis rates (1/466, 0.21% vs 4/640, 0.63%, P=0.41; 39/372, 10.48% vs 41/404, 10.15%, P=0.89). Conclusion: Considering ESD showed better en bloc and curative resection rates, comparative local recurrence with EMR, no significant difference of bleeding risk and stenosis with EMR, though it had higher rate of perforation, ESD should be the first choice for early esophageal cancer treatment.

Key Word(s): 1. Esophageal cancer; 2. ESD; 3. EMR; 4. Meta analysis;

PR0054
Endoscopy and Imaging (Diagnostic Imaging)
Plastic tube-assisted gastroscopic removal of embedded esophageal metal stents:
A case report
Presenting Author: GUIYONG PENG
Additional Authors: LEI CHEN
Corresponding Author: GUIYONG PENG
Affiliations: no; NO

Objective: To report gastroscopic removal of embedded esophageal metal stents. Methods: A patient with stent embedding after placement of an esophageal stent for an esophagobronchial fistula was treated with an ST-E plastic tube, inserted into the esophagus to the upper end of the stent using gastroscopy. The gastroscope was guided into the esophagus through the ST-E tube, and an alligator forceps was inserted into the esophagus through the ST-E tube alongside the gastroscope. Under gastroscopy, the stent wire was grasped with the forceps and pulled into the ST-E tube. When resistance was met during withdrawal, the gastroscope was guided further to the esophageal section where the stent was embedded. A biopsy forceps was guided through a biopsy hole in the gastroscope to the
embedded stent to remove silicone membranes and connection threads linking the Z-shaped wire mesh. While the lower section of the Z-shaped stent was fixed by the biopsy forceps, the alligator forceps were used to pull the upper section of the metal wire until the Z-shaped metal loops elongated. The wire mesh of the stent was then removed in stages through the ST-E tube. Care was taken to avoid bleeding and perforation. 

**Results:** Under the assistance of an ST-E plastic tube, an embedded esophageal metal stent was successfully removed with no bleeding or perforation. The patient experienced an uneventful recovery after surgery. 

**Conclusion:** Plastic tube-assisted gastroscopic removal of embedded metal stents can be minimally invasive, safe, and effective. 

**Key Word(s):** 1. esophagus; 2. stents; 3. gastroscope;

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PR0056

**Endoscopy and Imaging**

**(Diagnostic Imaging)**

**Kidney injury and hematuria due to duodenal perforation by an ingested toothpick**

**Presenting Author:** HONGZE ZENG

**Additional Authors:** BING HU, YI MOU, HANG YI, WEI LIU, QIMING WANG

**Corresponding Author:** BING HU, HONGZE ZENG

**Affiliations:** West China Hospital, Sichuan University

**Objective:** A 49-year-old man presented to the emergency department with abdominal pain for 5 days. Upper gastrointestinal endoscopy at local hospital showed a toothpick embedded in the duodenal flexure. On the day he was admitted to our hospital, the patient reported hematuria.

**Methods:** The patient complained no frequency, urgency or odynuria. His vital sign was stable. Physical exam and laboratory tests were unremarkable. An abdominal CT showed a needle-shaped structure penetrating the duodenal wall into the right kidney, with no vessel injury. The attempt to remove the toothpick by endoscopy was unsuccessful because the toothpick was not seen. A repeat abdominal CT revealed the toothpick was still embedded in the duodenal wall. The patient was indicated for laparotomy and underwent duodenorrhaphy.

**Results:** During surgery, a 6.5-cm toothpick was found. The patient had an uneventful post-operative recovery and was discharged after a week. 

**Conclusion:** The diagnosis of foreign body ingestion can sometimes be quite difficult because patients often do not remember ingesting a toothpick or other foreign bodies and gastrointestinal perforation can manifest as other diseases. Therefore, the possibility of gastrointestinal perforation by a foreign body should be considered when treating patients with abdominal pain.

**Key Word(s):** 1. duodenal perforation; 2. foreign body; 3. hematuria; 4. toothpick;
Endoscopy and Imaging (Diagnostic Imaging)

Case series of confocal laser endoscopic findings in signet ring cell gastric carcinoma

**Presenting Author:** DONG YANYAN
**Additional Authors:** LI YANQING
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**Affiliations:** Qilu Hospital

**Objective:** We report case series of confocal laser endoscopic findings in signet ring cell gastric carcinoma. **Methods:** Confocal laser endoscopy with fluorescein sodium was carried out in twelve patients with signet ring cell gastric carcinoma. We compared macroscopic appearance features. And we captured the specific confocal laser endoscopic findings of signet ring cells showing histological characteristics with solitary large intracytoplasmic vacuoles pushing the nuclei to the periphery of the cell, and they were all confirmed by targeted biopsies. **Results:** We report case series of confocal laser endoscopic findings in signet ring cell gastric carcinoma.

**Key Word(s):** 1. confocal endoscopy; 2. signet cell carcinoma.

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Endoscopy and Imaging (Diagnostic Imaging)

Clinical analysis of 17 cases of intestinal pseudo-obstruction

**Presenting Author:** QIAN WANG
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**Affiliations:** Department of Gastroenterology, Peking University People's Hospital

**Objective:** Intestinal pseudo-obstruction (IPO) is an uncommon but life-threatening complication of systemic lupus erythematosus (SLE). When IPO is presented as the first manifestation of the underlying SLE, it is difficult to achieve the accurate diagnosis. **Methods:** A total of 948 inpatients were diagnosed as SLE from January 2008 to December 2012. Seventeen cases were diagnosed IPO as the absence of bowel sounds, presence of multiple fluid levels on plain abdominal X-rays and exclusion of organic obstruction by imaging. Clinical symptoms, serological results, imaging features, therapeutic regimen and prognosis were studied retrospectively and compared with SLE control group and paralytic ileus group. **Results:** The average age of IPO was (38 ± 14) y. The female to male ratio was 15:2, which was higher than that of paralytic ileus group. Vomiting and diarrhea were more obvious. Seven cases had IPO as the initial presentation of their underlying SLE. The average SLE Disease Activity Index (SLEDAI) score was 13 when onset. Patients coexisted with 3 system involvements averagely, which was more than SLE control group. Pleural effusion, ascites, ureterohydronephrosis and interstitial cystitis were more common in IPO. The average C3 and C4 were (0.46 ± 0.23) G/L and (0.09 ± 0.07) G/L, respectively, which were much lower than them of SLE control and paralytic ileus group. Their bowel condition improved within 2 to 37 days after the treatment of corticosteroid and/or immunosuppressants. **Conclusion:** IPO has a predilection for young women with high SLEDAI score. It usually coincides with other system involvement especially ureterohydronephrosis and interstitial cystitis. Abdominal computed tomography scans are helpful for diagnosis. Accurate and prompt diagnosis of IPO is critical to avoid unnecessary surgical intervention. Most patients have good therapeutic responses to corticosteroids and immunosuppressive agents. **Key Word(s):** 1. Lupus; 2. Pseudo-obstruction; 3. Paralytic ileus; 4. Pyelectasis.

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Endoscopy and Imaging (Diagnostic Imaging)

ESD in treatment of early carcinoma and precancerous lesion in digestive tract

**Presenting Author:** WANGZHI YONG

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**Objective:** Gastrointestinal cancer is caused by one of the main causes of human death, along with the progress and the people of endoscopy in the diagnosis of technical understanding of tumor diseases, early gastrointestinal cancer and precancerous lesion detection rate has been greatly improved, while promoting the development of endoscopic techniques. Endoscopic therapy for its safe, minimally invasive, good curative effect, less pain, low cost features than the traditional operation therapy has the...
absolute advantage. In recent years in the world of endoscopic treatment of early gastrointestinal cancer obtained the rapid development, this study intends to explore the endoscopic submucosal dissection in the application value of early gastrointestinal cancer and precancerous lesions. **Methods:** between October 2010 and December–2012 year inpatient diagnosis of early carcinoma and precancerous lesion in digestive tract 45 routine endoscopic submucosal decollement. 12 patients with vein general anesthesia, 33 patients with preoperative 654–2 10 mg intramuscular injection and given diazepam 10 mg slow intravenous injection. All patients row ESD forward General within endoscopy, dyeing within Endoscopy, Endoscopic ultrasonography and the Organization pathology, confirmed for (T1 period) tumor or precancerous lesion (as Adenoma, Inflammatory polypl, low-and-high-level neoplasia); and by B-mode ultrasound enhanced CT or MRI is not see important organ transfer focal. Intraoperative and post-operative closely observe the occurrence of complications and timely processing. **Results:** total completed within endoscopic submucosal 43 cases, success rate for 95.6%, surgery time 30–186 (The median 65) min, occurred operation in the bleeding 3 cases. Postoperative 24–72 h of delayed hemorrhage: report of 2 cases, are by Improved endoscopic hemo-stasis; occurred gastric, rectal perforation the 1 cases, Through the perforated metal clip clipping and fasting, Gastrointestinal decompression after conservative treatment such as healing, 2 cases of colonic lesions encroach on the natural muscle layer, injection of saline solution to focus non-lifting sign, stop ESD to surgical treatment. 32 cases of patients with endoscopic follow-up after 2 months, wound healing, 11 cases of patients with endoscopic follow-up 3–6 months, have not seen locally residual or recurrent lesion, with an average follow-up period of 3.6 months, hospital Stay 5–15 D (average 6.5 d). **Conclusion:** treatment of gastrointestinal endoscopic submucosal decollement is effective method of early carcinoma and precancerous lesions, with minimally invasive surgery, security, short hospital stay, and many other advantages, and clinical application.

**Key Word(s):** 1. ESD; 2. EG;C. 3. precancerous lesion;

**PR0060**

Endoscopy and Imaging (Diagnostic Imaging)

**Observational study on therapeutic effect of endoscopic diagnostic Barrett’s treated with APC**

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**Objective:** Argon plasma coagulation can eradicate Barrett’s esophagus successfully in the majority of cases. We sought to determine how often intestinal metaplasia is detected during follow-up endoscopy after successfully treated and recurrent intestinal metaplasia. **Methods:** Patients treated successfully by APC for Barrett’s esophagus were followed using endoscopic surveillance according to a defined protocol. Patterns of recurrent or persistent intestinal metaplasia were documented and analyzed. **Results:** Two hundred sixty-five patients were coagulated by APC successfully, was derived from 690 patients with BE by endoscope, in 13926 patients. The maximum and minimum of detectable rate on BE in six senior endoscopic experts were 13.4% and 1.2% respectively (X2 = 78.446, p = 0.00); the highest and lowest of BE detection rate in eight intermediate endoscopic physician were 10.7% and 2.4% respectively (X2 = 84.994, p = 0.00). A total of 150 follow-up endoscopies during 1 year were performed (follow-up rate: 56.6%). Recurrent/persistent intestinal metaplasia was detected in 11 patients (RR, recurrence rate: 4.15%) after 1 months, 3 patients (RR: 1.13%) after 3 months, 2 patients (RR: 0.75%) after 6 months, 3 patients (RR: 1.13%) after 12 months. Endoscopically visible recurrence in the tubular esophagus in 3 patients (RR: 1.13%). On top of esophageal lesions extend to 27 cm place. Dysplasia or cancer was not detected in any patient during the follow-up period. **Conclusion:** There are obvious difference on endoscopic diagnostic BE in different levels of endoscopic physicians. Recurrent/persistent intestinal metaplasia of Barrett’s esophagus after successful APC is relatively common. This finding has implications for the continued surveillance of patients who are treated successfully. The Indications of treatment for endoscopic diagnostic BE and the optimal timing of using APC look worthy of further investigation.

**Key Word(s):** 1. Barrett’s; 2. reflux esophagitis; 3. GERD; 4. adenocarcinoma;

**PR0061**

Endoscopy and Imaging (Diagnostic Imaging)

**Evaluation of transnasal gastroscopy in the diagnosis and therapy of upper digestive tract disease**

**Presenting Author:** CUI ZHONG-MIN

**Additional Authors:** GUO XIAO-ZHONG, SHAO XIAO-DONG, ZHAO JIA-JUN, REN LI-NAN

**Corresponding Author:** GUO XIAO-ZHONG

**Affiliations:** General Hospital of Shenyang Military Area Command

**Objective:** To appreciate the advantage and probe the clinical value of transnasal gastroscopy. **Methods:** From May 2006 to October 2012, 3968 consecutive patients were examined with the use of transnasal gastroscopy (type EG-470N5, FUJINON) either transnasally or transorally. Eighty transnasal patients were randomly selected to monitor the change of heart rate, blood pressure and saturation of blood oxygen. Another 200 patients were selected to evaluate the observation effect and discomforts. Interventional therapy was performed in 83 patients. **Results:** 3809 patients received the examination through nose and 159 via mouth. During the transnasal examination, the heart rate and blood pressure changed mildly, but saturation of blood oxygen was almost stable. Twenty-one patients complained of mild nausea and discomfort in the nose and pharynx. 3869 patients were diagnosed as chronic gastritis, peptic ulcer, esophagitis, esophageal varices, portal hypertensive gastropathy, gastric cancer, Barrett esophagus, duodenagitis, polyp and so on. Twenty-six patients with severe stenosis were definitively diagnosed and fifty-eight patients received emergency gastroscopy. Biopsy was conducted in 654 cases and the general diagnostic rate was 98.3%. Interventional therapy was successfully performed in 51 patients (hemostasis for 33 cases, gastrolylisis for 2 cases, polyp resection for 2 cases, foreign body removal for 4 cases and placement of esophageal stent for 10 cases). In 32 cases, transnasal gastroscope was used as a tool to accomplish the placement of naso-enteric nutrition tube and capsule-endoscopy examination. No complications such as perforation and bleeding occurred. **Conclusion:** Transnasal gastroscopy has great practical value in the diagnosis and treatment of the upper digestive disorders.

**Key Word(s):** 1. Gastroscopy; 2. Endoscopic diagnosis; 3. Endoscopic therapy;
Objective: This study aimed to determine the relative value of the frequency and significance of the differences in relative values of frequencies of purple or green Autofluorescence imaging (AFI) staining of the epithelial neoplasia in the stomach. Methods: Gastroscopy AFI performed in patients with various gastrointestinal disorders of both sexes aged 22 to 78 years. Gastroscopy Olimpus Lucera GIF-Q260Z, HD, ZOOM, NBI, AFI used. All lesions were assessed histopathologically from biopsy specimens. Epithelial neoplasia were classified based into categories on the Vienna system. Two groups were formed, one consisted of gastric neoplasia 2–5 category and the control group included neoplasia of category 1 (negative for neoplasia \textit{dysplasia}). AFI background staining, that depends on the symptoms of atrophic gastritis in the body and antrum of the stomach, was not included in the present item. Results: There were 123 gastric epithelial neoplasia, 102 in the main group and 21 in the control. Neoplasia of category 2 were found 60, category 3 were 30 and category 4–5 were 12. AFI purple staining were 76 entities, the relative frequency of purple have neoplasia category 2–5. However, the difference between the purple or green colored neoplasias of the same category are not statistically significant. The relative frequency of green staining AFI was determined in 76% (CI 54–92%, \textit{p} < 0.05). The significance level for comparison of the relative frequencies of groups neoplasia 5–2 category and the control group included neoplasia of category 1, for the other categories in total 68% (95% confidence interval was 59–78%, \textit{t} = 1.96). The relative frequency of green staining AFI can be argued that a high probability of 54–92% staining Autofluorescence in green have neoplasia category 1. With 95% reliability the purple can be diagnosed by EUS-guided deep biopsy and immunohistochemistry.

Key Word(s): 1. Autofluorescence; 2. stomach; 3. neoplasia;

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**PR0063**

**Endoscopy and Imaging (Diagnostic Imaging)**

**The clinical application of endoscopic ultrasonography in the diagnosis of common bile duct stones**

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**Additional Authors:** YANGWEN YING, MENGLING SHI

**Corresponding Author:** SONG YUAN

**Affiliations:** policlinik 2 MER RF; state center of laser medicine

**Objective:** To investigate the clinical application of endoscopic ultrasonography in the diagnosis of common bile duct stones. Methods: The 18 patients who get the abdominal pain, combined with the patient’s medical history, clinical signs considered as cholelithiasis, and give the patients with the examinations of abdominal B ultrasound, abdominal CT abnormalities were found, MRCP various examination, exclusion the possibility of disease and clinical diagnosis is still considered for patients with common bile duct stones, we give a further line of EUS examination. Results: Detection common bile duct Microlithiasis is 16 cases, the detection rate was 78.5%. Conclusion: Endoscopic ultrasound can accurately determine the common bile duct microliathiasis.
examination. Endoscopic mucosal resection (EMR) treatment is a simple and safe procedure for rectal carcinoid tumors <1.5 lesions cm in diameter.

**Key Word(s):** 1. EUS; 2. carcinoid tumor; 3. Deep biopsy; 4. EMR;

**PR0066**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Upper gastrointestinal tract foreign body analysis of 42 patients of clinical diagnosis and therapy**

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**Additional Authors:** 傅春彬, 苏蕾, 刘志宏

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**Objective:** To summarize the diagnosis and treatment experience of superior alimentary canal foreign bodies and improve the success rate of endoscope extraction. Methods: 42 clinical data of patients with superior alimentary canal foreign bodies were retrospectively analyzed. Results: among 42 patients, 37 are with foreign body in esophagus, 5 patients with foreign body in stomach (3 patients with a definite diagnosis through X-ray AP film and the other 2 through electronic gastroscope), 41 foreign body were extracted through electronic gastroscope and 1 patient shows pneumoderm in neck. Conclusion: most patients with superior alimentary canal foreign bodies have a history of abnormal deglutition, several with extreme personality amit it is difficult to detect foreign body in stomach because there are too much food. Usually doctors need to use X-ray to make a definite diagnosis. Electronic gastroscope has important implications for the diagnosis and treatment of superior alimentary canal foreign bodies.

**Key Word(s):** 1. foreign bodies; 2. gastroscope; 3. diagnosis; 4. treatment;

**PR0068**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Preliminary study on the use of ISUS in the diagnosis of intestinal diseases**

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**Objective:** Study the imaging features of the normal small intestine under the intestinal endo-luminal ultrasound and its application in diagnosing disease of small intestine. Methods: The existing endoscopic ultrasonography (EUS) cannot detect the small intestine directly for the limited length of its probe. But it can do this on the patients whose digestive tracts have been shortened after operations on esophageal, stomach, duodenal, large intestine or laparotomy. Thus the patients should be screened. 50 patients were chosen out of the patients who stayed in Shanxi Coal Center Hospital Digestive Endoscopy Center, and who have been checked with capsule intestine, gastroscope, colonoscopy and double-balloon enteroscopy, as well as the patients who stayed in General Surgery and Digestive Surgery and who had intestinal checking during the operation. All the 50 patients have intestinal endo-luminal ultrasound, observe the imaging features of the normal small intestine and those with diseases, and take down the thickness of every small intestine wall layer and the characteristics. If any disease is found, the patient should have US and SCT, so as to decide the value of intestinal endo-luminal ultrasound in getting the imaging features of the normal small intestine and its application in diagnosing disease of small intestine. Results: Of the 50 patients, 47 had ISUS, of whom 10 have diseases. The normal small intestine wall has six layers while the jejunum and ileal has totally different imaging features and their separate characteristics. The jejunum wall and ileal wall which have tapetum is high-level echo – high-level ech – low-level echo – high-level echo – low-level echo – high-level echo from inside to outside. Those without tapetum is high-level echo – low-level echo – high-level echo – low-level echo – high-level echo from inside to outside. The layer thickness of jejunum is measured to be about 1.5–2.0 mm, ileal 1.8–2.2 mm, tapetum in jejunum 0.4 mm, tapetum in ileal 0.2 mm. The diseases include submucosal tumor (Gastrointestinal stromal tumors and Lipoma), polypl, ulcer lesions (benign), Crohn’s disease and elevated malignancy. Take the biopsy and the postoperative pathological results as standards; compare the US, SCT and diagnosis. The ten which have diseases were diagnosed with biopsy and the postoperative pathological. The diagnostic accuracy of ISUS is 70%, US 10%, and SCT 30%. As can be seen in the result, ISUS has a higher accuracy. But it’s not enough to do statistical analysis for there are very few diseases in the small intestine. More cases are being observed. Conclusion: ISUS can provide high resolution photography of every small intestine layer, and also a clear observation of the cause of the disease as well as the internal echo. It can become a new kind of diagnostic method of small intestine disease, and has guiding significance for treatment.

**Key Word(s):** 1. ISUS; 2. normal tissues; 3. intestine diseases; 4. diagnosis;

**PR0069**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Application of double-balloon enteroscopy in the diagnosis of small bowel disorders**

**Presenting Author:** REN LI-NAN

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**Corresponding Author:** GUO XIAO-ZHONG

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**Objective:** To evaluate the diagnostic value, tolerance and complications of double-balloon enteroscopy in the diagnosis of small intestinal diseases. Methods: During May 2009 to October 2012, a total of 294 patients with suspected small intestinal diseases were performed double-balloon enteroscopy. Among them, obscure recurrent gastrointestinal bleeding was found in 138 cases, chronic abdominal pain in 96 cases, and chronic diarrhea in 60 cases. Results: 294 endoscopies were performed, 114 cases via mouth route, and 180 cases via anus route. The observation of the whole small intestine was finished by the combination of both oral and anus approaches in 17 cases. Lesions were detected in 208 of 294 patients, positive rate is 70.75%. The diagnostics yields was 76.09% (105/138) in obscure recurrent gastrointestinal bleeding, 66/96 (68.75%) in chronic abdominal pain and 37/60 in chronic diarrhea, respectively. No procedure related severe adverse events or severe complications such as hemorrhage or perforation occurred in all cases. Conclusion: Double-balloon enteroscopy is a well tolerated and safe diagnostic approach with a high diagnostic yield in small intestinal diseases.

**Key Word(s):** 1. Enteroscopy; 2. Small intestinal; 3. Diagnosis;
**PR0070**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Diagnosis** of double-balloon enteroscopy in small intestinal bleeding disease

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**Objective:** To evaluate the diagnostic value of double-balloon enteroscopy in the diagnosis of small intestinal bleeding. **Methods:** During October 2009 to January 2013, the patients suspected small intestinal bleeding were performed double-balloon enteroscopy. **Results:** Double-balloon enteroscopy was performed in 143 patients. Pre-oral approach was performed in 41 cases, and route in 95 cases. The observation of the whole small intestine was finished by the combination of both oral and anus approaches in 7 cases. Success rate of enteroscopy insertion was 100%. Lesions were detected in 114 of 143 patients, positive rate is 79.7%. No procedure related severe adverse events or severe complications such as hemorrhage or perforation occurred in all cases. **Conclusion:** Double-balloon enteroscopy is a well tolerated and safe diagnostic approach with a high diagnostic yield in small intestinal bleeding.

**Key Word(s):** 1. DB enteroscopy; 2. small intestinal; 3. bleeding; 4. diagnostic value;

**PR0072**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Capsule endoscopy in the evaluation of chronic abdominal pain**

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Additional Authors: LI TAO, XIANYI LIN, YUNWEI GUO

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**Affiliations:** The Third Affiliated Hospital of Sun Yat-Sen University

**Objective:** Small bowel capsule endoscopy is a useful diagnostic modality in small bowel disease. However, its applicability to chronic abdominal pain is still unconfirmed. We herein assess the diagnostic yield of capsule endoscopy in patients with chronic abdominal pain. **Methods:** Capsule examination was carried out in twenty-six patients with chronic (>3 month) abdominal pain. Among the twenty-six chronic abdominal pain patients, the accompanying symptoms were body weight loss in seven, anemia in three, diarrhea in six, and without accompanying symptoms in ten. Capsule examination was carried out after conventional modalities failed to reveal the underlying pathology. **Results:** The overall diagnostic yield of capsule endoscopy for chronic abdominal pain was 30.7% (n = 8), including small bowel tumor (n = 5) and Crohn’s disease (n = 3). More specifically, its diagnostic yield was 10% in patients without accompanying symptoms, 42.8% in patients accompanying with body weight loss, 66.7% in patients accompanying with anemia, 33.3% in patients accompanying with diarrhea. **Conclusion:** The indications for capsule endoscopy in the study of chronic abdominal pain should be more precisely defined to achieve a greater clinical efficiency in this disorder. The accompanying symptoms especially anemia and body weight loss should be regarded as a valid indication for capsule endoscopy.

**Key Word(s):** 1. Capsule endoscopy; 2. abdominal pain;

**PR0071**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Clinical value of endoscopic miniprobe sonography on prominence lesions of gastrointestinal tract**

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Additional Authors: HAI-FENG LIU

**Corresponding Author:** HUAN WANG

**Affiliations:** General Hospital of Chinese People’s Armed Police Forces

**Objective:** To evaluate the clinical value of endoscopic miniprobe ultrasonography on prominence lesions of gastrointestinal tract. **Methods:** Endoscopic miniprobe ultrasonography was conducted on 74 patients diagnosed prominence lesions in gastrointestinal tract by endoscope, and EMR, ESD, ESE or surgery was selected to remove the lesions according to the results of endoscopic miniprobe ultrasonography. **Results:** The diagnosises of 74 cases were confirmed, and there were 36 cases of leiomyoma, 7 cases of heterotopic pancreas, 7 cases of lipoma, 5 cases of solitary phlebangioma, 3 cases of polyps, 2 cases of carcinoid, 1 cases of stromal tumors, 1 case of cyst respectively. The lesions of 14 cases were removed by endoscope, 1 cases by surgery. **Conclusion:** The higher diagnostic value of endoscopic miniprobe ultrasonography for protuberant lesions in gastrointestinal tract and the guiding significance of treatment by gastroscopy were confirmed.

**Key Word(s):** 1. ultrasonography; 2. prominence lesions; 3. gastrointestinal;

**PR0073**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Comparison between EMR with circumferential incision and ESD for treatment of LST**

Presenting Author: SU BUM PARK

Additional Authors: DAE HWAN KANG, HYUNG WOOK KIM, CHEOL WOONG CHOI, BYEONG JUN SONG, SU JIN KIM, DONG JUN KIM, BYEONG HOON JI, SEUNG JEI PARK, KYUNG WON KOH

**Corresponding Author:** SU BUM PARK

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**Objective:** The majority of laterally spreading tumor has histologically benign feature, consequently many endoscopist prefer to perform endoscopic treatment. Because it is difficult to perform en bloc resection with conventional endoscopic mucosal resection, there are some limitations, for example, histopathologic misdiagnosis and risk of local recurrence. The purpose of this study is to evaluate efficacy and comparison of two advanced endoscopic resection techniques, endoscopic mucosal resection with circumferential incision (EMR-CI) and endoscopic submucosal dissection (ESD). **Methods:** From February 2009 to May 2012, we enrolled 71 patient who underwent EMR-CI or ESD to remove laterally spreading tumor (M : F = 45 : 26, age: 61.8 ± 7.9). To analysis clinical outcomes of resection techniques, we reviewed several indicator retrospectively such as en bloc resection rate, complete resection rate, perforation rate, local recurrence rate. **Results:** The average size of laterally spreading tumor was 2.3 ± 0.96 cm (range: 1 cm – 7 cm). A large percentage of them was
located in rectum (26 cases) and ascending colon (21 cases). Morphologically, granular homogeneous type (22 cases) and granular mixed nodular type (23 cases) were common. On histopathologic examination, 36 lesions were low grade dysplasia, 18 lesions were high grade dysplasia and 15 lesions were adenocarcinoma. Compare with another types of laterally spreading tumor, mixed nodular type showed higher incidence of adenocarcinoma. By the tumor size, en bloc resection rates were as in the followings. In cases of tumor size under 2 cm, both EMR-CI (17/17) and ESD (7/7) were 100%. In cases of size 2 cm to 3 cm, EMR-CI was 70% (22/31), ESD was 88% (8/9). Size exceed 3 cm, EMR-CI was 50% (2/4), ESD was 80% (4/5). Conclusion: The overall en bloc resection rate of EMR-CI (78%, 41/52) and ESD (89%, 17/19) were higher than that of conventional endoscopic mucosal resection. The en bloc resection rates were not statistically different between the two resection techniques (P = 0.305). Compared with ESD, EMR-CI is technically simple. Therefore, EMR-CI may be effective modality in cases with hard to perform ESD.

Key Word(s): 1. ESD; 2. EMR; 3. EMR-CI; 4. LST;

**PR0074**

Endoscopy and Imaging (Diagnostic Imaging)

Study of premedication with pronase granules for improving visibility during gastroendoscopy

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Additional Authors: TIANSHU ZHANG

Corresponding Author: DONGYONG DONG

Affiliations: Capital University of Medical Sciences

Objective: Objective: To assess the efficacy and security of premedication with pronase granules during gastroendoscopy. Methods: Methods: 240 patients were divided into a treatment group and a control group randomly in order. Observe and assess the visibility score during gastroscopy, and the adverse reactions. Results: Results: Premedication with pronase (the treatment group) significantly reduced (P < 0.05) the visibility score in comparison with that obtained for premedication without pronase (the controlled group). In terms of security, incidence rate of transient adverse reaction is 3.3%, the result of the two groups are the same. Conclusion: Conclusions: Premedication with pronase granules effectively improved gastroscopy visualization, can significantly reduce the gastric mucus before gastroscopy and improve the detection of small lesions of stomach. Premedication with pronase granules has high security.

Key Word(s): 1. Pronase granules; 2. Gastroscopy; 3. Visibility; 4. Gastric mucus;

**PR0075**

Endoscopy and Imaging (Diagnostic Imaging)

Early biliary decompression with endoscopic treatment in acute biliary pancreatitis of elder

Presenting Author: HUANGGEN -

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Objective: To evaluate the effect of early biliary decompression and debridement with endoscopic treatment in elderly patients in acute biliary pancreatitis. Methods: 52 elder patients with acute biliary pancreatitis underwent early endoscopic treatment, and another 48 elder patients with acute biliary pancreatitis were treated conservatively. The clinical therapeutic effects were observed and the data we treated with statistics between two groups. Results: Elder patients with early endoscopic treatment have 96.6% of success in operation, and no ERCP related severe complication or death. The decrease of serum amylase levels, the times in the disappearance of abdominal pain, the time of the disappearance of jaundice, the days of the hospitalization, and rate of complication were significantly shorter in the early endoscopic treatment group than in the control group. The difference between two groups has statistical significance. The difference in the decrease of serum amylase levels, the times in the disappearance of abdominal pain, the time of the disappearance of jaundice between two groups has no statistical significance.

Conclusion: Early biliary decompression and debridement with endoscopic treatment can degrade the acute biliary pancreatitis’ elder patients case fatality rate and complication, and it conduces to patients convalescence early and has a short-term length of stay. We can conduct endoprosthesis purely in biliary tract for those elder patients with acute biliary pancreatitis but operation time intolerance and difficulty in calculus removed.

Key Word(s): 1. endoscopic treatment; 2. biliary pancreatitis; 3. elder;

**PR0076**

Endoscopy and Imaging (Diagnostic Imaging)

Comparison of endoscopic ultrasonography and CT scan for patients with esophageal carcinoma

Presenting Author: WENJING SUN

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Objective: To evaluate the guidance value of EUS and CT scan in preoperative clinical staging for diagnosis and treatment of esophageal cancer. Methods: 68 patients with esophageal cancer were randomized in a 1:1 ratio using a random numbers table. Patients in EUS group were examined by EUS and staged according to the TNM staging system (2003). Patients in the other group were examined by CT scan. The EUS findings were compared with surgical pathologic findings. Results: The accuracy rates of T staging by EUS were 0.0% (0/2) for Tis, 75.0% (3/4) for T1, 75.0% (6/8) for T2, 86.7% (13/15) for T3, 80.0% (4/5) for T4, and 76.5% (26/34) for T; those of N staging were 71.4% (5/7) for N0, 75% (9/12) for N1, 0.0% (0/11) for N2, 0.0% (0/4) for N3, and 41.2% (14/34) for N. The accuracy rates of T staging by CT scan were 0% (0/1) for Tis, 33.3% (2/6) for T1, 28.6% (2/7) for T2, 78.6% (11/14) for T3, 83.3% (5/6) for T4 and 58.8% (20/34) for T (p = 0.005); those of N staging were 77.8% (7/9) for N0, 76.9% (10/13) for N1, 66.7% (4/6) for N2, 50% (3/6) for N3 and 70.6% (24/34) for N (p = 0.005). Conclusion: The accuracy rates of EUS are higher for diagnosis in esophageal cancer and preoperative T staging. The accuracy rates of CT scan are higher for the preoperative N staging. EUS combined with CT scan has great significance for choosing ideal therapy plan for esophageal cancer, and for estimating prognosis of esophageal cancer.

Key Word(s): 1. EUS; 2. CT scan; 3. esophageal cancer; 4. clinical staging;
PR0077
Endoscopy and Imaging
(Diagnostic Imaging)
The use of abdominal ultrasound-guided percutaneous endoscopic gastrostomy for enteral nutrition
Presenting Author: PING HE
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Objective: To evaluate the method of abdominal ultrasound-guided percutaneous endoscopic gastrostomy (PEG) safety and feasibility in clinical work, to give patients the best, safest treatment.
Methods: 21 in patients of the First Bethune Hospital of Jilin University carried the percutaneous endoscopic gastrostomy (PEG) through intraoperative abdomen ultrasound of the anterior abdominal wall scan of the position of the abdominal wall and stomach wall closest, looking for the best abdominal wall puncture point, to avoid injure the vessels and vital organs in the abdomen.
Results: Abdominal ultrasound-guided percutaneous endoscopic gastrostomy (PEG) was performed in 21 cases, the success rate was 100%; average operation time was 21.5 minutes, the process had no bleeding, vice injury in complications; with the surveillance of 3 months to 4 years, the PEG tube patency and normal use, and no PEG late complications occurred.
Conclusion: Abdominal ultrasound-guided percutaneous endoscopic gastrostomy (PEG) obtain a high success rate, safe and effective; endoscopy and abdominal ultrasound organic combination can effectively reduce the PEG surgery complications and surgical risk. Only through the endoscopists in cooperation with the ultrasound doctors to the integration of its advantages, the rational the use of medical resources, without increasing the the medical input, will be able to effective in reducing the of PEG surgery the complications of and for surgical risk. It can be perform more convenient in the primary hospitals in China with high clinical value in use.
Key Word(s): 1. PEG; 2. abdominal ultrasound; 3. enteral nutrition;

PR0078
Endoscopy and Imaging
(Diagnostic Imaging)
Endoscopic outcome in a cohort of adult Sri Lankan dysphagics admitted to a tertiary care hospital
Presenting Author: RAVINDRA SATARASINGHE
Additional Authors: JAYEWARDENE RATHNAYAKE, SATHYA JITH AMBAWATTE, NAYOMI SHERMILA JAYASINGHE, RAVI WIJESINGHE, PUBUDU DE SILVA, NARTHANI RASENDRAN
Corresponding Author: RAVINDRA SATARASINGHE, NAYOMI SHERMILA JAYASINGHE
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Objective: To endoscopically evaluate the aetiology of dysphagia in adult Sri Lankans presented to a tertiary care hospital.
Methods: Case notes of 2728 patients who had undergone upper gastrointestinal endoscopy from 15th of February 2002 to 15th February 2013 in the principle author’s unit at Sri Jayewardenepura General Hospital, Kotte, Sri Lanka were retrospectively analyzed.
Results: There were 148 dysphagics (5.4%) in the sample. Age range was 11 years to 95 years. Mean age of presentation was 62.2 ± 17.0 SD years. Sex distribution male: female was 1 : 1.3 with a slight female predominance. The endoscopic findings were hiatus hernia, normal appearance, non erosive GORD, oesophagitis, oesophageal malignancies and oesophageal candidiasis of 50.6%, 54%, 22.9%, 19.5%, 20.3% and 2% instances respectively with overlaps. Barrett’s oesophagus was found only in one patient. A post cricoid web was found with Plummer Vinson syndrome in another. Mean age of hiatus hernia patients was 60.0 ± 16.4 SD years and Sex distribution male: female was 1 : 1.2. Mean age of endoscopically normal patients was 65.2 ± 16.0 SD years. Sex distribution male: female was 2: 3. Mean age of non erosive GORD patients was 59.4 ± 17.1 SD years and had a sex distribution male: female of 1: 3.1. Mean age of oesophagitis patients was 58.4 ± 18.0 SD years. Sex distribution male: female was 1: 1.3. Mean age of patients who has had oesophageal malignancies was 62.3 ± 11.8 SD years. Sex distribution male: female of 3: 2. Conclusion: Oesophageal malignancies as a cause of dysphagia were found only in one patient. A post cricoid web was found with Plummer Vinson syndrome in another. Mean age of hiatus hernia patients was 60.0 ± 16.4 SD years and Sex distribution male: female was 1 : 1.2. Mean age of endoscopically normal patients was 65.2 ± 16.0 SD years. Sex distribution male: female was 2: 3. Mean age of non erosive GORD patients was 59.4 ± 17.1 SD years and had a sex distribution male: female of 1: 3.1. Mean age of oesophagitis patients was 58.4 ± 18.0 SD years. Sex distribution male: female was 1: 1.3. Mean age of patients who has had oesophageal malignancies was 62.3 ± 11.8 SD years. Sex distribution male: female of 3: 2. Conclusion: Oesophageal malignancies as a cause of dysphagia were found in 1/5th in this cohort. The role of the hiatus hernia was unclear in the causation of dysphagia. Neuromuscular incordination could have played a major role in the endoscopically normal patients. Dysphagia as an indication for endoscopy was rare in this population.
Key Word(s): 1. dysphagia; 2. endoscopy; 3. carcinoma;
Objective: To assess the value of the Capsule Endoscopy (CE) image quality profile score in the clinical application. Methods: In a retrospective study, 62 patients underwent CE in our department, each case was scored by six factors: adequate bowel cleansing, duplicates, impurities, clearance, air bubbles and brightness. The final score was compared to the diagnosis accuracy. Results: According to the reviewing, there were significant difference of the comparison of 2 groups’ scores (Qualified, unqualified) (P < 0.001). Receiver operating characteristic curve analysis indicted that the score less than or equal to 71 was the best critical point for predicting an poor quality including medium and unqualified (the sensitivity and specificity were 87.5%, 83.2% respectively). Conclusion: The CE images score system was reliable and effective in reviewing and evaluating CE cases quality, it should be further studied.

Key Word(s): 1. Capsule Endoscope; 2. Image Quality; 3. Profile Score;

Endoscopy and Imaging (Diagnostic Imaging)

White vinegar staining and narrow-band imaging guidance in Barrett’s oesophagus

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Affiliations: Gastrointestinal Department

Objective: Compare with the conventional endoscopy, white vinegar staining, narrow band imaging (NBI) guidance in Barrett esophageal biopsy significance. Methods: 126 endoscopic BE patients diagnosed from February in 2012 to February in 2013 were enrolled. They were randomly divided into three groups: the control group of 42 cases, male 30 cases, female 12 cases, age 26–76 years old, average 51.02 ± 12.15 years old; white vinegar group 42 cases, male 28 cases, female 14 cases, age 23–74 years old, average 50.29 ± 12.81 years; 42 cases in group NBI, male 31 cases, female 11 cases, age 28–81 years old, average 52.64 ± 11.85 years old. On three groups of intestinal metaplasia and dysplasia detection rate for comparison. Results: Intestinal epithelial metaplasia of white vinegar group was markedly higher than that of the control group, the difference was statistically significant (X² = 4.429, P = 0.035); NBI group and white vinegar group dysplasia detection rate is higher than that of control group, but no significant difference; with intestinal metaplasia or (and) with dysplasia of esophageal mucosa were higher “white effect” than that of Barrett Inflammatory changes, the difference was statistically significant (X² = 5.459, P = 0.019). Conclusion: the white vinegar staining can improve the detection rate of intestinal metaplasia, narrowband endoscopic and white vinegar staining can improve the detection rate of special-shaped lesions, the detection rate of whitening effect is high in intestinal metaplasia and dysplasia.

Key Word(s): 1. Barrett’s oesophagus; 2. Narrow-band; 3. White vinegar;
had small bowel lesions while 8 were with colon lesions. **Conclusion:** Small bowel Crohn’s disease is usually accompanied with a variety of extra-intestinal manifestations and complications that are valuable to clinical early diagnosis. With comparison to other methods, capsule endoscopy is simple, affordable, and has been proved to be the best test for early diagnosis of small bowel Crohn’s disease in this study.

**Key Word(s):** 1. Capsule Endoscopy; 2. Crohn’s Disease; 3. Diagnosis;

**PR0083**

Endoscopy and Imaging (Diagnostic Imaging)

*Diagnostic value of EUS for GI tract neuroendocrine neoplasms*

**Presenting Author:** ZHANGXIANG LIAN

**Additional Authors:** JIANGHAI XING

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**Affiliations:** guangxi medical university

**Objective:** To assess the diagnostic value of EUS for GI tract neuroendocrine tumors. **Methods:** 16 cases of neuroendocrine tumors diagnosed at the First Affiliated Hospital of Guangxi Medical University from December 2002 to December 2012 were retrospectively analyzed. The feature of the EUS imaging was compared with traditional diagnostic method and evaluated the diagnostic value. **Results:** Of the 16 Neuroendocrine tumors, 7 (43.8%) were in the pancreas; 6 islet-cell tumors (one in the pancreatic head, two in the pancreatic body, two in the pancreatic tail, one in the junction of head and body); 1 vasoactive intestinal peptide tumors was in the pancreatic head. On EUS, pancreatic neuroendocrine tumors presented as hypoechoic masses with clear margins and maybe halo-like changes (discontinuous hyperechoic edge). Of the 16 Neuroendocrine tumors, 6 (37.5%) were rectal carcinoid in the rectum (from the anus 3–8 cm, mean 5.5 cm). On EUS, rectal carcinoid presented as hypoechoic masses with clear margins in mucosal or submucosal lesions. Of the 16 Neuroendocrine tumors, 2 (12.5%) were in the stomach: 1 stomach carcinoid was in greater gastric curvature and it presented as hypoechoic masses in mucosal; 1 stomach neuroendocrine tumor was in greater gastric curvature and it presented as hypoechoic masses in submucosal lesion. 1 (6.2%) was adrenal gland chromaffinoma in the left adrenal gland and it presented as hypoechoic masses in the pancreas, anechoic shadow with median strip and thick wall in the left adrenal. 15 neuroendocrine tumors all were definitely diagnosed by pathology. 7 underwent surger; 3 underwent ESD; 2 underwent EUS-FNA; 2 underwent EMR. The accuracy rate of EUS for preoperative localization was 93.7%. **Conclusion:** EUS can provide accurate preoperative localization and pathologic evidence for pancreatic neuroendocrine tumors. EUS has the the value in diagnosis and guiding EMR for enteron carcinoid.

**Key Word(s):** 1. EUS; 2. neuroendocrine tumor; 3. diagnosis; 4. FNA;

**PR0084**

Endoscopy and Imaging (Diagnostic Imaging)

*Endoscopic full-thickness resection of muscularis propria originating gastric submucosal tumors*

**Presenting Author:** YADONG FENG

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**Objective:** This study retrospectively reviewed 48 cases of gastric submucosal tumors treated by endolumenal endoscopic full-thickness resection (EFR) microsurgery in our gastrointestinal endoscopy center. **Methods:** From November 2009 to October 2012, 48 cases of patients underwent endolumenal EFR for resection of muscularis propria originating gastric submucosal tumors. Characteristics of 48 patients, clinical efficacy, safety of EFR and post-EFR pathological diagnoses were evaluated retrospectively. **Results:** EFR was successfully performed in 48 cases with 52 lesions. The median operation time was 59.72 min (range 30–270 min, SD 39.72 min). The mean tumor size was 1.59 cm (range 0.50–4.80 cm, SD 1.01 cm). During the EFR process, dual-channel gastroscopy was applied in 20 cases of SMTs and paracentesis during the EFR process was applied in 9 cases. EFR for larger SMTs and gastric corpus originating SMTs had longer operative times. Pathological diagnosis included 43 GISTs, 4 leiomyomas and 1 schwannoma. A larger tumor size was associated with higher risk of malignancy. No severe postoperative complications were observed. No tumor recurrences were confirmed in follow-up gastroscopy. **Conclusion:** Endolumenal EFR technique proved to be feasible and minimally invasive even for the resection of large gastric tumors originating from the muscularis propria. However, more data on EFR must be obtained and analyzed.

**Key Word(s):** 1. EFR; 2. gastric SMTs; 3. feasibility;

**PR0085**

Endoscopy and Imaging (Diagnostic Imaging)

*Capsule endoscopy for the diagnosis of vascular disease of the small intestine*

**Presenting Author:** WU CHUN-YAN

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**Affiliations:** General Hospital of Shenyang Military Area Command

**Objective:** To explore the diagnostic value of capsule endoscopy invascular lesions of the small intestine. **Methods:** To analyze the capsule endoscopy results of 51 cases of patients with suspected small intestinal bleeding from August 2003 to November 2012. **Results:** Among 51 patients with suspected small intestinal bleeding patients, there were 38 patients (74.5%) with positive results of capsule endoscopy with small bowel vascular lesions in 24 patients (40.1%), including 16 cases of the blood vessels to dilate, 6 cases of single jejunum vasodilation, 5 cases of multiple jejunum vasodilation, 3 cases of the blood vessels dilate in ileum single, 2 cases of jejunum and ileum blood vasodilation. There were 2 cases of Diculafy disease in the middle of Jejunum, 4 cases of hemorrhages, 2 cases of venous sinus. **Conclusion:** The diagnostic value of capsule endoscopy for small bowel vascular lesions is better than other small bowel examination methods, such as the small intestine contrast angiography, intestinal CT, gut MRI and propelled double balloon enteroscopy.

**Key Word(s):** 1. small intestine; 2. Capsule endoscopy; 3. diagnosis;
PR0086
Endoscopy and Imaging
(Diagnostic Imaging)
Diagnosis value of EUS guided fine-needle aspiration and cell blocks in pancreatic cystic lesions
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Affiliations: The First Affiliated Hospital of Guangxi Medical University

Objective: To investigate the diagnostic value of endoscopic ultrasonography-guided fine needle aspiration (EUS-FNA) and cell blocks to the pancreatic cystic lesions. Methods: Form Jan 2007 to Dec 2012, the clinical data were retrospectively reviewed for 30 patients with pancreatic cystic disease, which were all examined by traditional imaging tests (CT, MRI, B-ultrasound), EUS-FNA. And other 8 cases of them underwent liquid-based cytology (LBC), cell blocks. Then compared their diagnostic values in pancreatic cystic disease. Results: Among them, 22 cases were pancreatic pseudocyst, 2 cases were mucinous cystadenoma, 1 cases was intraductal papillary mucinous neoplasm (IPMN), 3 cases were pancreatic cancer, and 2 cases were cystadenocarcinomas. The diagnostic accuracy of traditional imaging tests, EUS-FNA, LBC, cell blocks separately were 63.33%, 92.58%, 75%, 100% (P<0.05). Compared with traditional imaging tests, the sensitivity, specificity, Youden index of EUS-FNA were higher (92.58%, 71.42%, 0.64 vs 63.33%, 53.57%, 0.17). The sensitivity of cell blocks was higher than LBC (100% vs 75%). Conclusion: EUS-FNA and cell blocks can improve the diagnostic accuracy of pancreatic cystic lesions.

Key Word(s): 1. EUS-FNA; 2. Cell block; 3. LPC; 4. EUS;

PR0087
Endoscopy and Imaging
(Diagnostic Imaging)
Upper gastrointestinal endoscopy training with a computer-based simulator
Presenting Author: WANGYONG JUN
Corresponding Author: WANGYONG JUN
Affiliations: beijing friendship hospital

Objective: In 2004, Department of Gastroenterology, Beijing Friendship Hospital Affiliated to Capital Medical University Beijing brought in the first endoscopy training simulator in China, which put an end to the traditional training model of teaching hand by hand. The endoscopy training had stepped into a new stage. After one-year application, a whole set of training method and procedure had been established. From January 2005 to March 2012, we evaluated the role of endoscopy simulation system played in upper gastrointestinal endoscopy training by performing randomized clinical trial, to further improve the training method and exploit new application area. Methods: One hundred and Eighty-four fellows with no experience in endoscopy were randomly assigned to two groups; one group underwent 10 hours of training with a computer-based simulator, and the other did not. Each trainee performed upper endoscopy in 20 patients. Performance parameters evaluated included the following: esophageal intubation, retroflexion, pyloric intubation, intubation of the second part of the duodenum and procedure duration. Results: The differences were significant for procedure duration (p = 0.032) and retroflexion (p < 0.001), pyloric intubation (p < 0.001). There was no significant difference of esophageal intubation (p = 0.699), intubation of the second part of the duodenum (p = 0.141) between two groups. Conclusion: Though the endoscopy simulation system it can’t replace the actual operation under supervision, it can help trainees command the basic operation skills of endoscopy more quickly, improve the learning curve of upper gastrointestinal endoscopy, reduce the minimum cases required when physicians try to operate it independently, reduce the incidence rate of medical tangle and patients’ pain. The computer-based simulator is effective in providing trainees with the skills needed for upper gastrointestinal endoscopy.

Key Word(s): 1. Endoscopy; 2. endoscopy training; 3. Simulator; 4. Computer-based;

PR0088
Endoscopy and Imaging
(Diagnostic Imaging)
Investigation of i-Scan endoscopy in detection of colonic mucosal precancerous lesions
Presenting Author: XIA YAN
Additional Authors: XU HONG, WANGLI BO, TAO KE
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Objective: To investigate high-definition endoscopic i-Scan in the detection of colorectal Precancerous lesions of clinical value. Methods: 2011-01/2013-2 in our hospital for routine endoscopy of patients, which found that the new biological and polypoid colorectal lesions were 451 cases. Respectively, using conventional high-definition endoscopy, HD i-Scan Technology and staining techniques to observe the lesion to make the initial endoscopic diagnosis with histopathological diagnosis was compared. Results: Endoscopic i-Scan HD technology for cancer and non-neoplastic lesion detection rate with the dye endoscopy rather, no significant difference (P > 0.05). I-Scan technology, high-definition endoscopic diagnosis of neoplastic lesions was 86.1% sensitivity and specificity was 95.4% overall diagnostic accuracy rate is 92.47%. Conclusion: Endoscopic i-Scan HD technology for the observation of the large intestine mucous membrane lesions was significantly better than normal colonoscopy, and the operation is simple, with high clinical value.

Key Word(s): 1. i-Scan Technology; 2. colon lesions; 3. staining;
Objective: A new endoscope system with a laser light source: blue laser imaging (BLI) has been developed by Fujifilm that allows for narrow-band light observation. The aim of this study was to evaluate the diagnostic accuracy of BLI for the diagnosis of colorectal polyps.

Methods: We retrospectively analyzed 314 colorectal polyps that were examined with BLI observation at Kyoto Prefectural University of Medicine between September 2011 and January 2013. The diagnostic accuracy by published Hiroshima classification was 99.3% (312/314) between non-neoplastic lesions and neoplastic lesions. Additionally, the ability of BLI without magnification to differentiate between neoplastic and non-neoplastic polyps was analyzed.

Results: A total of 41 hyperplastic polyps, 168 adenomas, 80 intramucosal cancer, 11 shallowly invaded cancer, and 14 deeply invaded submucosal cancer were analyzed. The overall diagnostic accuracy of BLI without magnification was 84.3% (265/314) using Hiroshima classification. The diagnostic accuracy for differentiation was 94.3% (99/105) between dSM in cancerous lesions and 92.1% (99/105) between dSM in non-cancerous lesions. The diagnostic accuracy was higher for polyps ≥20 mm in diameter (92.1% vs. 72.5%; P = 0.000003 [<0.001]). In view of morphology, it was significantly lower for superficial polyps ≥20 mm in diameter than for superficial polyps <20 mm in diameter (70.0% vs. 82.9%; P = 0.03 < 0.05). Additionally, the diagnostic accuracy of BLI without magnification for differentiating between neoplastic and non-neoplastic polyps <10 mm in diameter was 95.2%, which was greater than that of white light (83.2%).

Conclusion: BLI was useful for the diagnosis of colorectal polyps.

Key Word(s): 1. BLI; 2. IEE; 3. colorectal cancer;
circumference, and Lee index were 19.90 ± 0.84 kg, 41.80 ± 2.77 cm, 389.53 ± 9.57, vs. 18.10 ± 0.87 kg, 39.4 ± 1.05 cm, 373.47 ± 9.44 at 4 week, P < 0.05; vs. 15.02 ± 0.53 kg, 32.00 ± 1.50 cm, 355.17 ± 12.37 at 12 week postoperatively, P < 0.01); but the change of above indicators was not obvious in control group. Preoperative body mass, abdominal circumference, and Lee index all were higher in treatment group than in control group significantly, no statistical differences at 12 week postoperatively.

Conclusion: Endoscopic Esophagus-Jejunum stent implantation bypass which simulate and improve of classic Roux-en-Y gastric bypass can treat obesity effectively and safely.

Key Word(s): 1. Obesity; 2. Endoscopy; 3. Stent; 4. Bariatric surgery;

Objective: To observe and evaluate the effect of endoscopic Esophagus-Jejunum stent bypass treatment on type 2 diabetes mellitus. Methods: 5 dogs of T2DM model as treatment group were performed endoscopic Esophagus-Jejunum stent bypass (combined with laparotomy), and 5 normal dogs as control group were performed endoscopy and exploratory laparotomy. The T2DM indicators including fast plasm glucose (FPG), fasting insulin (FINS) and intravenous glucose tolerance (IVGTT) were determined preoperatively, and 4 weeks, 8 weeks, 12 weeks postoperatively, respectively. Results: FPG, IVGTT-2h PG, FINS and IVGTT-2h FINS all dropped obviously at 4 week postoperatively in treatment group, and were significantly lower than preoperatively (P < 0.01). It fell near to which in controls, and no no statistical difference between treatment group and control group at 12 week postoperatively (P > 0.05). The IR index distinctly dropped and the HOMA-β showed a rise trend after operation in treatment group. Conclusion: Endoscopic Esophagus-Jejunum stent implantation bypass which simulate and improve of classic Roux-en-Y gastric bypass can treat T2DM effectively and safely.

Key Word(s): 1. T2DM; 2. Endoscopy; 3. Stent; 4. gastric bypass;

Objective: To observe and evaluate the effect of endoscopic Esophagus-Jejunum stent bypass treatment on type 2 diabetes mellitus (T2DM) model dogs. Methods: 5 dogs of T2DM model as treatment group were performed endoscopic Esophagus-Jejunum stent bypass (combined with laparotomy), and 5 normal dogs as control group were performed endoscopy and exploratory laparotomy. The T2DM indicators including fast plasm glucose (FPG), fasting insulin (FINS) and intravenous glucose tolerance (IVGTT) were determined preoperatively, and 4 weeks, 8 weeks, 12 weeks postoperatively, respectively. Results: FPG, IVGTT-2h PG, FINS and IVGTT-2h FINS all dropped obviously at 4 week postoperatively in treatment group, and were significantly lower than preoperatively (P < 0.01). It fell near to which in controls, and no no statistical difference between treatment group and control group at 12 week postoperatively (P > 0.05). The IR index distinctly dropped and the HOMA-β showed a rise trend after operation in treatment group. Conclusion: Endoscopic Esophagus-Jejunum stent implantation bypass which simulate and improve of classic Roux-en-Y gastric bypass can treat T2DM effectively and safely.

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iodine staining scales were compared with pathologic diagnosis. Then the detection rate and other related indicators among WLI, NBI and Lugol iodine staining were compared. While the NBI grading and iodine staining classification of the lesions were compared with pathological diagnosis.

Results:

(1) 125 lesions were found in 103 patients. 96 lesions were detected with WLI, 120 lesions were detected with NBI endoscopy, 125 lesions were detected with iodine staining. There was no significant difference between NBI and iodine staining in detecting rate (p > 0.05). The detection rate of WLI was lower than NBI and iodine staining, (p < 0.01, p < 0.01).

(2) The WLI detected 85% (34/40) severe dysplasia and early esophageal cancer, 73.91% (51/69) mild and moderate dysplasia; while NBI detected 100% (40/40) severe dysplasia and early esophageal cancer, 94.20% (65/69) mild and moderate dysplasia; and iodine staining detected 100% dysplasia and early esophageal cancer. The sensitivity for severe dysplasia and early esophageal of NBI and iodine staining was 100%, 100% (p > 0.05), which were higher than WLI (p < 0.05). There was no significant difference in detecting mild and moderate dysplasia between NBI and iodine staining (94.20% vs 100%, p > 0.05); which were higher than WLI (73.91%, p < 0.01, p < 0.01).

(3) The NBI classification for Severe dysplasia and early esophageal cancer was, I, 90% (36/40); II and III, 10% (4/40); for mild and moderate dysplasia, I, 2.90% (2/69); II and III, 94.20% (65/69). The iodine staining grading for Severe dysplasia and early esophageal cancer was, I, 95% (38/40); II and III, 5% (2/40); for mild and moderate dysplasia, I, 5.80% (4/69); II and III, 94.20% (65/69).

(4) 109 lesions in 87 patients were diagnosed with early esophageal cancer and precancerous lesions, which include 62 male patients, 25 female patients. And among them, 8 patients were no more than 45 years old, 79 patients were more than 45 years old. In male patients or in patients more than 45 years, the detection rate of early esophageal cancer and precancerous lesions was higher (p < 0.01, p < 0.01).

Conclusion: NBI appears as effective as Lugol iodine staining to detect early esophageal cancer and precancerous lesions. Although NBI is more technically easy to perform, less time-consuming, Lugol iodine staining is cheaper, especially for the screening for early esophageal cancer and precancerous lesions in the undeveloped areas. Therefore, these two methods can’t replace each other, and still be ideal complementary diagnostic tool.

Key Word(s): 1. esophageal cancer; 2. precancerous lesions; 3. Narrow-band imaging; 4. Lugol staining; 

PR0097  
Endoscopy and Imaging  
(Diagnostic Imaging)
Elective surgery after stenting and emergency surgical on colorectal malignant obstruction
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Objective: To evaluate the clinical value and safety of colorectal stenting as a bridge to primary anastomosis placed endoscopically using fluoroscopic guidance versus emergency surgical decompression on acute resectable malignant colorectal obstruction. Methods: From May 2001 to October 2012, 94 patients were diagnosed with acute colorectal malignant obstruction. 30 patients of them underwent metal stent placement as a bridge to an elective resection and primary anastomosis, while the left 64 patients underwent emergency surgery. The two group patients were compared for successful one-stage operation, operation time, postoperative ventilation time, hospital stay, hospital mortality and postoperative complications. And observed the clinical and technical success rate of stent placement, the rate of stent-related complication and after stenting accept laparotomy and laparoscopic surgery in the stent group. Results: There was statistically significant difference in successful one-stage operation and morbidity in two groups. The one-stage resection and primary anastomosis rate was 96.67% in the stent group and was 53.1% in the emergency surgery group (P < 0.001). The postoperative morbidity in stent group was significantly lower than that in emergency surgery group (6.67% vs. 25.0%, P < 0.05). There was no statistically significant difference in mortality rate in both groups. The mortality rate during hospital stay was 0 in the stent group and was 3.12% in the emergency surgery group. There was statistically significant difference in operation time and postoperative ventilation time in two groups. Stent group and emergency surgery operative time was (156.13 ± 49.79) min and (180.31 ± 47.95) min, postoperative ventilation time was (3.60 ± 1.40) d and (4.39 ± 1.96) d. There was no statistically significant difference in hospital stay. The mean hospital stay was (18.83 ± 5.56) days in the colonic stent group and was (20.30 ± 9.14) days in the emergency surgery group. The stent insertion was successful in 100% of attempted stent placements. The clinical success rate was 96.67% in the stent group. The stent-related complication was 6.67%. The mean interval between stenting and surgery was 8.9 days. Patients in the stent group underwent significantly more laparoscopic surgery than in emergency surgery group (P < 0.01). Stent group underwent laparotomy surgery time is shorter than the stent group underwent laparoscopic surgery (P < 0.05), laparotomy complications was significantly lower than the minimally invasive laparoscopic surgery in the sent group (P < 0.05), but received laparotomy patient’s hospital stay was significantly longer than patients underwent laparoscopic surgery. Conclusion: Colorectal stenting placed endoscopically using fluoroscopic guidance as a bridge to a primary surgical procedure is effective. Elective surgery after stenting safer than emergency surgery. It could increase the chance of primary anastomosis, reduce postoperative complications and seize the opportunity of minimally invasive surgery, can be used as an effective treatment for remission of malignant colorectal obstruction.

Key Word(s): 1. Sdent; 2. Colorectal cancer; 3. Elective surgery; 4. Emergency surgery; 

PR0098  
Endoscopy and Imaging  
(Diagnostic Imaging)
Clinical evaluation of endoscopic submucosal dissection in early esophageal cancers and dysplasia
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Objective: With the continuous development of endoscopic techniques, more and more attention were paid to endoscopic treatment for early gastrointestinal cancer. Among these treatment, endoscopic submucosal dissection (ESD) has been widely accepted by medical workers for the more efficacy and less trauma. However, compared with early gastric cancer and precancerous lesions, ESD in esophageal requires higher operation, more efficacy and less trauma. However, compared with early gastric cancer and precancerous lesions, ESD in esophageal cancer and precancerous lesions who underwent ESD were more and more attention were paid to endoscopic treatment for early esophageal cancer and precancerous lesions who underwent ESD. Therefore, these two methods can’t replace each other, and still be ideal complementary diagnostic tool.

Key Word(s): 1. esophageal cancer; 2. precancerous lesions; 3. Narrow-band imaging; 4. Lugol staining;
metastasis was excluded by Chest CT examination. To observe and compare the circumstance of surgery and treatment, complications, efficacy of postoperative follow-up, and so on. **Results:** Among the 176 cases, average operation time of ESD for 56 cases of low-grade intraepithelial neoplasia (LEIGN), 80 cases of High-grade intraepithelial neoplasia (HGIEN) and 40 cases of early esophageal cancer are respectively 62 min, 72 min and 86 min, and the average diameter of three groups were respectively 4.3 cm, 5.0 cm and 5.7 cm. Chest pain in 80 patients (45.5%), bleeding in 2 cases (1.1%), perforation in 3 cases (1.7%), esophageal stricture in 15 cases (8.5%), bellyache in 17 cases (9.6%) and fever in 15 case (8.5%) were observed postoperation. None case was observed for other complications. 125 cases completed the follow-up investment, with a median follow-up time of 14 months (1–39 months), among which residual lesions were occured in 11 patients (6.3%), two of which LEIGN, six was HGIEN, three was early esophageal cancer and two cases of recurrence (4%). 101 cases were proceeded for a 2 months postoperative review, with healing rate of 100% (101/101). 79 cases were proceeded for 6 months postoperative review with two cases of local recurrence, wound healing rate of 100% (79/79). 52 cases completed were proceeded for 12 months postoperative review with one cases of local recurrence, wound healing rate of 100% (52/52). The pathological diagnosis between preoperative and post-operative were different of 12 cases in the 176. For instance, among 6 patients with a preoperative biopsy prompted LEIGN, 5 cases were diagnosed as HGIEN while one case was early esophageal cancer after ESD. 5 cases witch were diagnosed as HGIEN, were prompted to be early esophageal cancer with post-operative diagnostic. Also, one patients who was diagnosed as HGIEN was prompted to be LEIGN after ESD. **Conclusion:** ESD could excise early esophageal cancer and precancerous lesions as en bloc, provide complete pathologic data and reduce recurrence and complication. ESD was not only a safe and effective therapeutic method but also a good diagnostic methodfor early esophageal cancer and precancerous lesions. 

**Key Word(s):** 1. ESD; 2. esophageal cancer; 3. Diagnosis; 4. Treatment;

**PR0099**

Endoscopy and Imaging (Diagnostic Imaging)

**Effect of intranperative perforation on respiratory and circulatory function during ESD**

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**Objective:** To investigate the effect of intranperative perforation on respiratory and circulatory function during endoscopic submucosal dissection (ESD) of gastric submucosal lesions. **Methods:** From December 2010 to December 2012, there were 45 patients underwent intranperative perforation during ESD of gastric submucosal lesions. We reviewed and recorded the respiratory and circulatory index including End-tidal carbon dioxide concentration (EtCO2), arterial oxygen pressure (PaO2), arterial carbon dioxide pressure (PaCO2), Peak airway pressure (PPEAK), systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP), electrocardiogram (ECG), heart rate (HR) and oxygen saturation of arterial blood (SpO2) before and after of perforation. **Results:** The value of EtCO2, PaCO2, PPEAK, MAP and HR increased significantly after perforation. **Conclusion:** Intranperative perforation during ESD of gastric submucosal lesions had obvious effect on respiratory and circulatory function. Thus, respiratory and circulatory index should be under close monitoring to ensure the safety of ESD. 

**Key Word(s):** 1. endoscopic; 2. ESD; 3. perforation;

**PR0100**

Endoscopy and Imaging (Diagnostic Imaging)

**Health technology assessment of capsule endoscopy**

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**Objective:** The aim of this study was to assess the accuracy, safety and economics of capsule endoscopy (CE) for the diagnosis of small bowel diseases (SBD). **Methods:** According to the principles of health technology assessment (HTA), we searched some important medical databases including Health Technology Assessment Database (INAHTA), Cochrane Library, PubMed, Embase, VIP database, Chinese biomedical literature database (CBM) and Chinese Journal full-text database (CNKI) until July, 2012. We reviewed and evaluated the diagnostic characteristics of CE. **Results:** Out of 2246 preliminary relevant papers, 31 papers (4 HTA, 12 SR, 10 economics, 3 guidelines and 2 RCT) were included in this study. Most of them were carried out in patients with obscure gastrointestinal bleeding (OGIB), Crohn’s disease (CD) and Celiac disease. The visualization of the small bowel to the cecum was achieved in approximately 80% of the patients. The reported diagnostic yield ranged from 39% to 83%, sensitivity from 80% to 95% and specificity from 75% to 100%. Few patients (0.9%–5.2%) were recorded adverse events, and most patients alleviated spontaneously with no treatment. Capsule retention only occurred in 0.3%–3.0% of the patients. The costs used in CE diagnostics were calculated as an average of the declared values in 3 out of 4 HTA studies. It was reported by HTA in Italy that the higher the number of annual CE examinations, the lower the unit cost of the procedure. **Conclusion:** CE is a useful tool for diagnosis of SBD with a quite high diagnostic yield, good safety and low retention rates. However, more welldesigned clinical trials and more studies on the cost effectiveness of CE are needed to determine its usefulness in SBD other than OGIB and CD. 

**Key Word(s):** 1. capsule endoscopy; 2. small bowel diseases; 3. diagnosis; 4. HTA;

**PR0101**

Endoscopy and Imaging (Diagnostic Imaging)

**Endoscopy-guided multichannel mucosal recording of gastric slow waves in human**

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**Objective:** The gastric slow wave recording can be acquired by cutaneous electrodes with EGG or surgically implanted serosal electrodes. However, the EGG is the sum of the whole gastric myoelectrical activity, and the serosal recording is impractical for most clinical applications. Mucosal recording has been studied rarely, but it can be endoscopy-guided and exhibit the potential for acquiring slow wave activity from different regions of the stomach. In this study, we utilize a novel method for recording slow waves from specific mucosal sites during gastroscopy. **Methods:** twenty patients with gastric submucosal tumor underwent gastroscopy under anesthesia. Three improved zebra guide wires were
directed to the antrum, the middle corpus and the junction of fundus and corpus along the greater curvatures. Then they were fixed by titanium clip. A cutaneous electrode was attached on the midpoint between xyphoid and umbilical. Multichannel record (Polygraf ID®, Medtronic A/S, Denmark) was applied. Dominant frequencies and dominant power from concurrent mucosal and cutaneous EGG recordings were compared. Results: A total duration of 346 min was taken. There was no difference between dominant frequencies at the fundus (3.12 ± 0.57 cpm), corpus (3.12 ± 0.53 cpm), antrum (3.10 ± 0.57 cpm) and the skin (3.12 ± 0.56 cpm) (P > 0.05). The dominant power of mucosal region was higher than skin. Conclusion: This method is effective and provides insight into the mechanisms of action of gastric slow wave.

Key Word(s): 1. Endoscopy; 2. gastric slow waves;

PR0102
Endoscopy and Imaging (Diagnostic Imaging)
The clinical characteristics of esophageal GISTs and endoscopic removal of esophageal GISTs
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Objective: To investigate the clinical characteristics of esophageal GISTs and evaluate safety and efficacy of ESD or STER for removal of esophageal GISTs. Methods: Data of 24 patients with esophageal GISTs, who underwent ESD/STER, were reviewed in terms of personal situation, location and size of lesions, clinical manifestation, managements, pathology, complications and follow up findings. Results: The esophageal GISTs were more common in patients over 50 years and in males. They were more common in the lower portion, less in the middle region and rare in the upper part. They originated from the muscularis propria mostly, especially the lower esophageal GISTs. The rate of esophageal GISTs with smooth muscle differentiation is high. The ESD/STER procedure was successfully performed in all patients and all lesions were removed completely. The patients were followed up for 3 to 42 months, and no tumor residue or complications from concurrent mucosal and cutaneous EGG recordings were compared. Results: A total duration of 346 min was taken. There was no difference between dominant frequencies at the fundus (3.12 ± 0.57 cpm), corpus (3.12 ± 0.53 cpm), antrum (3.10 ± 0.57 cpm) and the skin (3.12 ± 0.56 cpm) (P > 0.05). The dominant power of mucosal region was higher than skin. Conclusion: This method is effective and provides insight into the mechanisms of action of gastric slow wave.

Key Word(s): 1. Endoscopy; 2. GISTs; 3. ESD; 4. STER;

PR0103
Endoscopy and Imaging (Diagnostic Imaging)
Distribution characteristics of Leiomyoma and Gastrointestinal Stromal Tumors in esophagus
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Objective: To investigate the distribution characteristics of Leiomyoma and Gastrointestinal Stromal Tumors (GISTs) in esophagus by Endoscopy. Methods: A total of 382 patients with esophageal leiomyoma and 31 patients with Gastrointestinal Stromal Tumors of esophagus which underwent endoscopic examinations from 2000 to 2013 were analyzed.

Results: The esophageal leiomyoma group included 184 males and 198 females with a mean age of 52.4 years. The tumor size ranged from 0.2 to 5 cm (mean = 1.3 cm). 32% of the leiomyoma (120/382) were located in the upper third of the esophagus and 36% (138/382) were located in the middle third of the esophagus and 32% (124/382) were located in the distal end of the esophagus. 88.4% of the leiomyoma (338/382) arose from muscularis mucosa. The GIST group included 8 males and 23 females with a mean age 53.2 years. The tumor size ranged from 0.4 to 4 cm (mean = 1.5 cm). The 87% of the GIST were in the lower and middle esophagus (27/31). 61% of GIST arose from muscularis propria. There were significant differences between two groups in the distribution and the origination in the esophagus (p < 0.05). Conclusion: Leiomyoma was the most common tumor in esophagus. They were uniform in the upper, middle and lower region of esophagus, but the GISTs were more common in the lower portion. Most of the leiomyoma originate from muscularis mucosa while GIST originate from the muscularis propria mostly. The different characteristics of the two type of tumors would provide information for the option of endoscopic treatment.

Key Word(s): 1. Endoscopy; 2. GISTs; 3. Leiomyoma;

PR0104
Endoscopy and Imaging (Diagnostic Imaging)
Value of EUS-FNA in diagnosis of digestive system lesions
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Objective: To investigate the diagnostic value of clinical application of endoscopic ultrasonography fine needle aspiration (EUS-FNA) in patients with different digestive system lesions. Methods: Patients with different digestive system mass between Sep. 2008 and Mar. 2013 in Tianjin general hospital were reviewed. The types of digestive diseases, variety of needle, number of aspiration, negative pressure of each aspiration, cytological/tissue diagnosis and final diagnosis were analyzed. Results: All 61 patients who underwent EUS-FNA did not have any procedure-related complications. 33 patients with pancreatic mass, 16 patients with medias- tinal tumor, 6 patients with gastric elevated lesions and 6 patients with celiac tumour were detected by EUS-FNA. The overall diagnostic accuracy was 80.3% (49/61), while malignancy was verified cytologically in 36 patients. Histological samples were obtained in all 8 patients with 22 G needle with thorn, and diagnostic accuracy was 87.5%. This method could markedly improve the diagnostic accuracy compared with commonly 22 G and 19 G. needles (P = 0.010), and decrease the number of passes (P = 0.020). Conclusion: EUS-FNA is a safe approach with high specificity for the cytological or histological diagnosis of digestive system lesions.

Key Word(s): 1. EUS; 2. digestive lesions; 3. FNA; 4. diagnosis;

PR0105
Endoscopy and Imaging (Diagnostic Imaging)
Endoscopic ultrasound guided celiac plexus neurolysis relieves advanced pancreatic carcinoma pain
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Affiliations: GENERAL HOSPITAL

Objective: Abdominal pain in patients with advanced pancreatic carcinoma is a common symptom that is often difficult to manage. There are different treatment modalities with variable results. Celiac plexus neurolysis (CPN) is a technique with good previous results using fluoroscopy, CT
Objective: Presenting Author: Before and after ESD
Investigation of symptoms of small gastric GIST (Diagnostic Imaging)

PR0107
Endoscopy and Imaging (Diagnostic Imaging)
Investigation of symptoms of small gastric GIST before and after ESD
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Objective: Gastrointestinal stromal tumor (GIST) is the most common mesenchymal tumor in gastrointestinal (GI) tract. It’s believed that GIST is originated from interstitial cells of Cajal (ICCs) in the GI tract or the stem cells to ICCs differentiation. ICCs are responsible for pacing GI slow wave and mediating neurotransmitter transport, and play a role in the regulation of GI motility. Furuzonoc in Japan found that GIST cells appear to preserve some ionic mechanisms underlying pacemaker activity in ICC. So GISTS, especially GIST tumourlets are likely to preserve the biological functions of ICCs, and the normal gastric myoelectrical activity is possible to be disturbed by them. Then the gastric motility disorders maybe occur. The purposes of the study were to explore if the GI symptoms would occur caused by the small gastric GIST. Methods: The changes of the GI symptoms of the patients with gastric GIST and the patients with gastric leiomyoma in our hospital between 2009–2011 were investigated before and after ESD through the questionnaires survey, and the differences of the symptoms of two groups are compared. The changes of the GI symptoms of the patients of gastric GIST low-risk group and very low-risk group before and after ESD are also investigated. Results: 94.2% of the patients with gastric small GIST and 93.5% of the patients with gastric leiomyoma experienced some dyspepsia symptoms. The GI symptom scores of two groups were decreased significantly after ESD treatment. No difference between the two groups before treatment, but the patients with gastric GIST improved more obviously after ESD. After treatment, the GI symptoms of 25% GIST patients disappeared completely; while 16.1% in the leiomyoma group. The patients with gastric GIST improved more obviously especially in the symptom of heartburn, nausea and vomiting, belching. There were no differences in symptom score and symptom distribution between the GIST patients with low risk and very low risk whether before ESD or after ESD. Conclusion: The Occurrence mechanism of dyspepsia symptoms of the two groups maybe is different. GIST maybe preserve some ICC pacemaker activity and/or neurotransmitter transfer function which is likely to interfere with the rhythmicity, power and spatial coordination of gastric slow wave, and result in the occurrence of the dyspepsia symptoms lastly.

Key Word(s): 1. GIST; 2. ESD;

PR0106
Endoscopy and Imaging (Diagnostic Imaging)
Endoscopic ultrasonography for differential diagnosis of duodenal lesions
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Affiliations: GENERAL HOSPITAL

Objective: Duodenal tumours are rare and require a different management from that of esophagogastric neoplasia. This study retrospectively analyses the endoscopic ultrasonography (EUS) features of duodenal tumours of both epithelial and subepithelial origin. Methods: 199 patients with elevated lesions in duodenal tract who were admitted to our hospital between Apr. 2010 and Mar. 2013 were brought into this study. The type of lesions and diagnostic accuracy were confirmed by the follow-up endoscopy. Pathological diagnosis were obtained after surgery and endoscopy detection. Results: 87 lesions were located in duodenal bulb (43.7%). Other lesions were located in descending potion (56.3%). After EUS, 42 cases were diagnosed as cyst, 39 as Brunner’s adenoma, 23 as minor papilla, 19 as lipoma, 18 as polyh, 11 as ectopic pancreas, 10 as stromal tumour, 5 as malignant tumour, 3 as neuroendocrine tumour (carcinoid tumour), 2 elevated lesions were pressured by outside organs, another 27 lesions had no diagnosis. Endoscopic therapy were carried in 48 patients, surgery in 12 patients, endoscopic follow-up in 33 patients from 3 months to 22 months. The diagnostic accuracy of EUS was 83.8% (78/93). Conclusion: EUS can clearly expose five layers of gastrointestinal tract and histological structure of adjacent organs, which is of great help to achieve definite diagnosis of elevated lesions in duodenal tract.

Key Word(s): 1. EUS; 2. CPN; 3. pancreatic carcinoma; 4. pain;

PR0108
Endoscopy and Imaging (Diagnostic Imaging)
Mucosal strip biopsy improve endoscopic diagnosis of primary gastric malignant lymphoma (PGML)
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Objective: To discuss the endoscopic morphological characteristics of PGML and define the value of strip biopsy in improving the diagnostic accuracy. Methods: The clinicopathological datum of 59 patients with PGML diagnosed in a university-affiliated hospital in southern China from January 2003 to December 2011 were retrospectively reviewed. Among these patients, ultrasound endoscope was carried out provided that routine gastroscope biopsy failed to supply sufficient support for confirming a diagnosis. Otherwise, patients highly suspicious of malignancy with endoscopic features of obvious thickened gastric wall or disturbed mucosal structure would undergo either endoscopic submucosal dissection (ESD) or endoscopic mucosal resection (EMR) to achieve strip biopsy, which would be sent for pathological evaluation and immunohistochemical typing. Results: Upper abdominal pain was reported as the most common symptoms (43 from 59 patients). Thirty patients (50.8%) had tumors mainly located in the stomach body. According to immunohistochemical staining results, 29 cases and 27 cases were diagnosed as diffuse large B-cell lymphoma (DLBCL) and mucosa-associated lymphoid tissue (MALT) lymphoma respectively. Endoscopic patterns were recognized as guidance and recently, guided by endoscopic ultrasound (EUS). The aim of this study is to report the experience of EUS guided CPN (EUS-CPN) for treatment of abdominal pain in patients with pancreatic carcinoma.

Methods: EUS-CPN was performed to relieve pain in 13 patients with advanced pancreatic carcinoma. By linear array endoscopic ultrasonography, fine needle was punctured to the region of celiac ganglion with injected of 5 ml 2% lidocaine and 15 ml 98% dehydrated absolute alcohol. The visual analogue scale (VAS) was recorded 2 days after operation and weekly thereafter. Results: All patients were performed EUS-CPN successfully. No serious complications occurred. Only 2 cases got slightly diarrhea which disappeared one week later. V AS was 6.7 ± 1.2 before CPN and it obviously decreased after 7 days (3.8 ± 1.0). The effects of CPN maintain a rather long term. Conclusion: EUS-CPN is a safe and effective means for relieving the pain in advanced pancreatic carcinoma.

Key Word(s): 1. EUS; 2. CPN; 3. pancreatic carcinoma; 4. pain;
The period impacted in esophagus of rigid group (26.2% (88.7%) than flexible group (60.8%), but lower in inferior esophagus. The proportions of FBs impacted in upper esophagus was higher in rigid group. Size of FBs in flexible group was larger than rigid group (P < 0.05). (2) Fish bone, chicken bone shrimp, crab and fruit seeds accounted for more cheaper and no need to anestheisa.

Successful rates were both high with two treatment, but flexible endoscopy was more cheaper and no need to anestheisa.

Key Word(s): 1. esophageal FBs; 2. Foreign body; 3. Endoscopy; 4. Management;

PRO109
Endoscopy and Imaging (Diagnostic Imaging)
The efficacy of 216 esophageal foreign bodies extraction in adults: Flexible versus rigid endoscopy
Presenting Author: XIU E YAN
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Objective: Esophageal foreign body (FB) impaction is a common emergency in China. The aim of this study was to compare rigid versus flexible endoscopy in esophageal FB extraction in Beijing China. Methods: In a retrospective cohort study with consecutive data, adults with esophageal FB impaction who were diagnosed and treated between January 2008 and December 2012 to the Peking University Third Hospital, Beijing, China, were included. Results: (1) In all types of FBs, food which included food lump, fish bone, chicken bone shrimp, crab and fruit seeds accounted for 92.9% and 81.1% in rigid and flexible endoscopy group respectively. The size of FBs in flexible group was larger than rigid group (P < 0.05). (2) The proportions of FBs impacted in upper esophagus was higher in rigid group (88.7%) than flexible group (60.8%), but lower in inferior esophagus. (3) The period impacted in esophagus of rigid group (26.2 ± 28.3 hrs) was longer than flexible group (14.4 ± 13.0 hrs)(P = 0.001). (4) 69.7% patients in rigid group and 86.5% in flexible group went to hospital for treatment within 24 hours from impacted. 13.4% in rigid and 1.4% in flexible group went to hospital beyond 48 hours. (5) The proportion of FBs puncturing into one or two esophageal wall in rigid group (69%) was higher than flexible group (31.1%). (6) Positive rate with upper gastrointestinal barium contrast and chest X-ray or abdominal plain film were 98.5%, 23.9% and 94.4%, 22.7% for diagnosing esophageal FBs in rigid and flexible group. (7) The successful rate, complication and perforation rate were 100%, 65.1%, 5.6% and 97.3%, 47.3%, 1.4% in rigid and flexible endoscopy group, respectively. Conclusion: There was no difference in complication and perforation rate between rigid and flexible endoscopy. The successful rates were both high with two treatment, but flexible endoscopy was more cheaper and no need to anestheisa.

Key Word(s): 1. Esophageal FBs; 2. Foreign body; 3. Endoscopy; 4. Strip biopsy;

PRO110
Endoscopy and Imaging (Diagnostic Imaging)
Comparison of NBI and chremoendoscopy in diagnosis of early gastric cancer and precancerous lesions
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No. 154, Anshan Road, Heping District, TianjinObjective: The goal of this study was to investigate the clinical value of narrow-band imaging endoscopy (NBI) and magnification chremoendoscopy (MCE) in diagnosis of early gastric cancer (EGC) and precancerous lesions. Methods: One hundred and fourteen patients with 137 gastric lesions were enrolled. Routine endoscopy followed by NBI, magnification chremoendoscopy (indigo carmine, IC) was sequentially used. The quality of the gastric lesions, pits and microvascularity were evaluated. The gastric pits and microvascularity were observed and divided into corresponding patterns. The biopsy samples were taken in suspicious area. The values in diagnosis of EGC and precancerous of NBI and MCE were compared. Results: (1) Visualization of silhouette of gastric lesions by NBI endoscopy and chremoendoscopy were clearer than the conventional endoscopy. There was no significant difference between MCE + NBI and chremoendoscopy MCE + IC. Gastric pit by NBI combined with ME was clearer than MCE and ME. Gastric mucosa microvascularity by NBI combined with ME was clearer than the ME and indigo carmine MCE. (2) Compared with histological results, gastric pits of type I or II were usually found in gastric inflammation, type III in gastric atrophy, type IV in intestinal metaplasia, type IV in dysplasia and type IV or V in EGC. Gastric mucosa microvascularity of type I or II were usually found in inflammation, atrophy and intestinal metaplasia, type II in dysplasia, type II or III in EGC. (3) The accuracy, sensitivity and specificity of diagnosis in gastric precancerous lesions all have insignificant deviation between NBI combined ME and MCE. χ² = 2.373, P > 0.50; χ² = 2.057, P > 0.10; χ² = 1.373, P > 0.10. In gastric cancer, they also have insignificant deviation between NBI combined ME and MCE. χ² = 1.348, P > 0.25; χ² = 1.222, P > 0.50; χ² = 0.686, P > 0.50. Conclusion: NBI and MCE can capture optimal view of gastric lesion, pits and microvascularity. It is always helpful for improving the accuracy of early gastric cancer and precancerous lesions on endoscopic target biopsies. Since easy to be operated, NBI system can be used as a complementary technique and it will have a wider prospect of application in the future.

Key Word(s): 1. Narrow Band imaging; 2. Chromoendoscopy; 3. Early Gastric cancer; 4. Precancerous lesion;
**PR0111**

Endoscopy and Imaging (Diagnostic Imaging)

Comparison of NBI and pharmacoendoscopy in diagnosis of early gastric cancer and precancerous lesion

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**Objective:** The goal of this study was to investigate the clinical value of Narrow-Band Imaging endoscopy (NBI) and Magnifying pharmacoendoscopy (MPE) in diagnosis of early gastric cancer (EGC) and precancerous lesions. **Methods:** The goal of this study was to investigate the clinical value of Narrow-Band Imaging endoscopy (NBI) and Magnifying pharmacoendoscopy (MPE) in diagnosis of early gastric cancer (EGC) and precancerous lesions. **Results:**

1. Visualization of silhouette of gastric lesions by NBI endoscopy and MPE can capture optimal view of gastric lesion, pits and microvascularity. It is always helpful for improving the accuracy of early gastric cancer and precancerous lesions on endoscopic target biopsies. As epinephrine has microvascularity-enhanced effect on EGCs, NBI and MPE can capture optimal view of gastric lesion, pits and microvascularity. It is always helpful for improving the accuracy of early gastric cancer and precancerous lesions.

**Conclusion:** NBI and MPE can capture optimal view of gastric lesion, pits and microvascularity. It is always helpful for improving the accuracy of early gastric cancer and precancerous lesions on endoscopic target biopsies. As epinephrine has microvascularity-enhanced effect on EGCs, NBI and MPE can capture optimal view of gastric lesion, pits and microvascularity. It is always helpful for improving the accuracy of early gastric cancer and precancerous lesions.

Key Word(s): 1. Narrow Band imaging; 2. Pharmacoendoscopy; 3. Early Gastric cancer; 4. Precancerous lesion;

**PR0112**

Endoscopy and Imaging (Diagnostic Imaging)

MRI/NIRF molecular probes for tumor angiogenesis in gastric carcinoma

Presenting Author: DIANCHUN FANG
Additional Authors: PU WANG, CAIFEI SHEN, JINGWEN LI, YIN XU, SHUNZI SHAO, XIAONA YU, YIJU XIA
Corresponding Author: DIANCHUN FANG

Affiliations: A member of standing committee, Association of Chinese Digestive Disease; Southwest Hospital

**Objective:** To specifically visualize gastric cancer by using monoclonal antibodies targeting CD105 as molecular probes for in vivo molecular near-infrared optical imaging and MRI in a human-murine xenograft model. **Methods:** TRC105, a human/murine chimeric anti-CD105 monoclonal antibody, was conjugated to an NIRF dye (IRDye 800CW; Ex: 778 nm; Em: 806 nm). FACS analysis and microscopy studies were performed to compare the CD105 binding affinity of TRC105 and 800CW-TRC105. In vivo/ex vivo NIRF imaging, blocking studies, and ex vivo histology were performed on MKN45 murine gastric tumor-bearing mice to evaluate the ability of 800CW-TRC105 to target tumor angiogenesis. Human gastric carcinoma xenografts were examined in nude mice by using optical imaging after injection of MRI/IRDye labeled antibodies. Confocal laser scan microscopy was evaluated on tumor tissue after mice were sacrificed. **Results:** Fluorescence intensity in the anti-CD105 and cetuximab group was significantly higher than in IRDye control mice. The same protocol allowed macroscopic fluorescence detection of tumor xenografts. **Conclusion:** In vivo optical imaging of gastric cancer and fluorescence microscopy is feasible in a human-murine xenograft model with both diagnostic and therapeutic antibodies targeting angiogenesis. In perspective, dual-modality could help diagnose and molecularly characterize gastric cancer during ongoing gastroscopy and may pave the way for treating diseases.

Key Word(s): 1. molecular imaging; 2. CD105; 3. fluorescence; 4. gastric cancer;

**PR0113**

Endoscopy and Imaging (Diagnostic Imaging)

The Lugol’s solution staining in Improving the diagnostic rate of Barrett’s esophagus

Presenting Author: ZHENG YAOCHU
Corresponding Author: ZHENG YAOCHU

Affiliations: ying tan people’s hospital

**Objective:** To investigate clinic value of detecting Barrett’s esophagus with Lugol’s solution staining. **Methods:** 80 patients are observed, which from the people’s hospital of ying tan city, part of them were suspected with Barrett’s esophagus. They were divided into two groups at random. The test group were stained by Lugol’s solution and undergone biopsy. However, the control group were undergone biopsy by routine endoscopy. **Results:** The detection rate is of using Lugol’s staining when endoscopy is significantly higher than the control group (P < 0.05). **Conclusion:** The Lugol’s solution staining and undergone biopsy can noticeably improve the diagnostic rate of Barrett’s esophagus.

Key Word(s): 1. Lugol’s solution; 2. Barrett’s Esophagus; 3. chromoendoscopy;
**PRO114**

**Endoscopy and Imaging**

(Diagnostic Imaging)

To observe the efficacy of titanium clips in treating acute Dieulafoy disease

Presenting Author: XIONG YANYAN

Corresponding Author: XIONG YANYAN

Affiliations: ying tan people’s hospital

**Objective:** To observe the efficacy of titanium clips in treating acute Dieulafoy disease. **Methods:** Data on seventeen cases of Dieulafoy’s lesion hemorrhage, treated between April 2009 and December 2012, were collected. The bleeding site was identified by endoscope, and the broken end of vessel was clipped with a titanium clip adjuster. The patients were sequential application of continuous intravenous infusion of octreotide (0.0125 mg/h), which continued for 3 to 5 days. Patients were followed-up for 6 months. **Results:** The treatment of endoscopic hemoclip was successful. Two patients bled again after hemostasis to surgery. The hemostasis rate was 100%, and the rebleeding rate was 11.8%. There was no complication in all patients. None recurred in 6 months. **Conclusion:** Metal titanium clips provide an effective and safe measure with which to reat Dieulafoy’s disease. It is worth the promotion and application.

**Key Word(s):** 1. Dierlafoy disease; 2. Metal titanic clips; 3. hemostasis;

**PRO115**

**Endoscopy and Imaging**

(Diagnostic Imaging)

Colonic stenting as bridge to surgery for management of acute malignant colonic obstruction: A meta-analysis

Presenting Author: XUAN HUANG

Additional Authors: BIN LV, SHUO ZHANG, LI-NA MENG

Corresponding Author: BIN LV

Affiliations: the First Affiliated Hospital, Zhejiang Chinese Medical University

**Objective:** To evaluate the efficacy and safety of colonic stenting as bridge to surgery versus emergency surgery for acute left-sided malignant colonic obstruction. **Methods:** The randomized clinical trials (RCT) that compared the efficacy or safety of preoperative colonic stent versus emergency surgery for acute left-sided malignant colonic obstruction were researched from Pubmed, OVID, EMBASE, Cochrane library, et al. Statistical heterogeneity between trials was evaluated by Revman 5.1 and was considered to exist when I² > 50%. **Results:** Six RCTs including 322 cases were analyzed. And 165 cases were received preoperative colonic stents and 157 cases were received emergency surgery. Compared with emergency surgery groups, preoperative colonic stents achieved significantly higher effective rates of permanent stoma, one-stage operation, wound infection. There was no significant difference between two groups in anastomotic leakage, mortality, intra-abdominal infection, overall morbidity. Inspection of the funnel plots for all outcome measures did not reveal evidence of publication bias. **Conclusion:** Self-expanding metal stents serve as a safe and effective bridge to subsequent surgery in patients with obstructing left-sided colon cancer. And it can significantly improves one-stage operation, and decrease the rates of permanent stoma and wound infection.

**Key Words(s):** 1. Stent; 2. Surgery; 3. colonic obstruction; 4. Meta-analysis;

**PRO116**

**Endoscopy and Imaging**

(Diagnostic Imaging)

Does the selection of colonoscope affect the quality of difficult-insertion cases?

Presenting Author: AKIHIRO YAMAUCHI

Additional Authors: SHIN-EI KUDO, HIDEYUKI MIYACHI, YUSHI OGAWA, KENTA IGARASHI, YASUHARU MAEDA, YUI OKA, SHINICHI KATAOKA, YUKI KOUYAMA, TATSUYA SAKURAI, KOI KUDO, KATSURO ICHIMASA, SEIKO HAYASHI, HIROMASA OIKAWA, YUSHAKU SUGIHARA, MASASHI MISAWA, YUICHI MORI, KENTA KODAMA, TOYOKI KUDO, TOMOKAZU HISAYUKI, TAKEMASA HAYASHI, KUNIHIKO WAKAMURA, SHOGO OHKOSHI

Corresponding Author: AKIHIRO YAMAUCHI

Affiliations: Showa University Nothern Yokohama Hospital, Digestive Disease center

**Objective:** Colonoscopy is useful for early detection of colorectal cancers. It is necessary to insert and move the colonoscope smoothly and quickly to reduce patients’ pain. We usually perform colonoscopy with conventional colonoscope (CF-H260AZ: AZ) using “3S insertion technique". However, if we face a difficult-insertion case, we use a pediatric colonoscope (PCF-Q260Z) or a smaller caliber colonoscope (PCF-PQ260: PQ). The PQ is the slimmest and has two characteristics: “passing bending design" and “high force transmission design”. The aim is to reveal the usefulness of the PQ for difficult-insertion cases. **Methods:** In our hospital, we started using the PQ since August 2010. Between August 2010 and March 2013, we performed colonoscopy with the PQ for 557 difficult-insertion cases: emaciation, adhesion, history of abdominal surgery. Among these cases, 92 cases were also performed by the AZ previously. The inspections undergone by beginners who had experienced less than 1000 cases were excluded from this study. To investigate the usefulness of the PQ, we compared the insertion time of the PQ cases with that of the AZ cases. **Results:** The mean insertion time with the PQ was shorter than that of the AZ (7.20 ± 3.93 minutes vs 9.10 ± 5.60, P < 0.01). If we face a difficult-insertion case, colonoscopy using the PQ should be recommended. We should perform colonoscopy accurately and also reduce the patient’s burden. **Conclusion:** The selection of the slimmest caliber colonoscope (PCF-PQ260) may improve the quality of inspection, shortening the insertion time for difficult-insertion cases.

**Key Word(s):** 1. coloscope; 2. PCF-PQ260;

**PRO117**

**Endoscopy and Imaging**

(Diagnostic Imaging)

The value of EUS in the diagnosis and treatment of Gastrointestinal Neuroendocrine Neoplasm and literature review

Presenting Author: WEI WEI GAO

Additional Authors: KUI JIANG, BANG MAO WANG, DONG BO XU

Corresponding Author: WEI WEI GAO, KUI JIANG

Affiliations: Department of Gastroenterology; Department of Pathology

**Objective:** We aim to investigate the value of endoscopic ultrasonography in the diagnosis and treatment of Gastrointestinal Neuroendocrine Neoplasm (GI-NEN). **Methods:** We retrospectively summarized the clinical data of 44 patients with GI-NEN which were found by endoscopy
and confirmed by pathology and immunohistochemistry, and analyzed the EUS features and the Follow-up data of patients who received EUS exam and EUS-assisted endoscopic resection, meanwhile reviewed with related literatures. **Results:** 47 neoplasms in 44 patients (2 patients with multiple neoplasms). According to 2010 WHO classification of tumours of the digestive system, 87% (41/47) were Neuroendocrine Tumors (NET) confirmed by histological evaluation, which were polypoid or protruded lesions in endoscopy; 13% (6/47) were Neuroendocrine Carcinoma (NEC), which were ulcerative lesions in endoscopy. The clinical symptoms of patients with GI-NEN were non-specific. All patients with NET received EUS exam and EUS-assisted endoscopic resection. EUS showed that lesions depended from mucosal and submucosal layer were respectively 18 and 23, the diagnosis coincidence rate for lesion layer was 100% compared with pathology, all lesions had regular edges, were hypoechoic, and had homogenous echographic pattern. All cases underwent follow-up endoscopy and/or EUS at 3–6 mo, 12 mo after operation, which showed the wounds healing were well, no residual tumors and recurrence confirmed by histological evaluation. **Conclusion:** EUS may accurately determine the depended wall layer of GI-NEN lesions, size, edge, echo etc., and provide important information for adapting appropriate treatment strategies in order to insure the safety and completeness of endoscopic resection, has highly clinical practice value in the diagnosis and treatment of GI-NEN. **Key Word(s):** 1. EUS; 2. GI-NEN; 3. Diagnosis; 4. Treatment;

**PR0118**

**Endoscopy and Imaging (Diagnostic Imaging)**

**Endoscopic resection of a polyp located at duodenal bulb near to pylorus with retroflexion technique: A case report**

**Presenting Author:** QIMING WANG

**Additional Authors:** YI MOU, HANG YI, WEI LIU, HONGZE ZENG, BING HU

**Corresponding Author:** BING HU

**Affiliations:** West China Hospital

**Objective:** With the development and wide application of gastrointestinal endoscopy technology, endoscopic resection of the polyps in digestive tract is the first-line treatment of gastrointestinal polyps. However, polyps located at duodenal bulb near to pylorus can not be visualized completely by forward endoscopic view, unless the retroflexion view technique is performed. Endoscopic resection of this type of polyps by using retroflexion technique in duodenum is difficult, due to the operation space is limited and narrow. We report here a case of Endoscopic resection of a polyp located at duodenal bulb near to pylorus with retroflexion technique.

**Methods:** Using endoscopic retroflexion technique to resect a polyp located at duodenal bulb near to pylorus. **Results:** The lesion was completely resected with no complication. **Conclusion:** Retroflexion technique is an effective method for the resection of polyps located at duodenal bulb near to pylorus.

**Key Word(s):** 1. Retroflexion; 2. Endoscopic resection; 3. duodenal polyps;

**PR0119**

**Endoscopy and Imaging (Diagnostic Imaging)**

**CLE in comparison with narrow-band imaging and Chromoendoscopy for the differentiation of atrophic gastritis**

**Presenting Author:** TAO LIU

**Additional Authors:** HAOXUAN ZHENG, BO JIANG

**Corresponding Author:** BO JIANG

**Affiliations:** Department of Gastroenterology, Nanfang Hospital, Southern Medical University; Department of Gastroenterology, Nanfang Hospital, Southern Medical University

**Objective:** Several advanced imaging techniques have been developed to improve differentiation of gastrointestinal lesions. As a precancerous lesion, atrophic gastritis should be diagnosed and under surveillance. Confocal laser endomicroscopy (CLE) allows real-time in-vivo microscopic imaging of tissue. Narrow band imaging (NBI) and Chromoendoscopy can also diagnosis atrophic gastritis. This study assessed the accuracy, sensitivity and specificity of those advanced techniques for diagnosis of atrophic gastritis.

**Methods:** Consecutive patients were recruited. Each patient underwent examinations of NBI and Chromoendoscopy, as well as CLE. Four sites of a stomach in every patient were chose to be examined by three endoscopies. Those sites were the lesser curvature of gastric antrum, the greater curvature of of gastric antrum, the middle of lesser curvature of gastric corpus and the the middle of greater curvature of gastric corpus. During NBI and Chromoendoscopy, four sites in every patient were diagnosed for surface pit pattern. Type C, type D and type E were diagnosed of atrophic gastritis. During CLE, four sites in every patient were diagnosed for the criteria: dilated openings of gastric pits, the numbers of gastric pits reduced, exist of goblet cells or absorptive cells. Biopsies were taken from four sites after each patient examined by three endoscopies. Histopathology diagnosis served as the gold standard. **Results:** A total of 69 patients were included, which contained 25 atrophic gastritis diagnosed by histopathology. The accuracy, sensitivity, and specificity of CLE were 94.2%, 92%, and 95.5%, whereas that of NBI were 75.3%, 80%, and 72.7%, and chromoendoscopy were 79.7%, 88%, and 75.0% respectively.
The sensitivity and specificity for CLE is higher than that for NBI (p = 0.021, p = 0.004 respectively), and also higher than that of chromoendoscopy (p = 0.043, p = 0.007 respectively). **Conclusion:** This study suggests that CLE has superior sensitivity and specificity as compared with NBI and chromoendoscopy for diagnosis of atrophic gastritis.

**Key Word(s):** 1. CLE; 2. NBI; 3. chromoendoscopy; 4. atrophic gastritis;

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**PR0120**  
**Endoscopy and Imaging**  
(Diagnostic Imaging)  
**Submucosal tunneling endoscopic resection for tumors originating from the muscularis propria layer**  
**Presenting Author:** XUEFENG LU  
**Corresponding Author:** XUEFENG LU  
**Affiliations:** Qilu hospital of shandong university

**Objective:** The incidence of tumors originating from muscularis propria layer of upper gastrointestinal tract is increasing year by year. With the popularity of endoscopy and endoscopic ultrasound (EUS), the detection level has been significantly improved. We aimed to determine the efficacy and safety of submucosal tunneling endoscopic resection (STER) for this type of tumors. **Methods:** 16 patients, with a mean age of 42.8 ± 10.6 years, underwent STER. Among these cases, 11 were esophageal tumors while 5 originated from stomach. The control group consisted of 30 cases which have accepted treatments via laparoscopy, of which 20 patients had esophageal tumors, 10 had stomach tumors, the mean age was 46.3 ± 11.2 (P > 0.05). All of them were confirmed to be muscularis propria tumors by EUS. Then we analyze the conditions intraoperative and postoperative of the two groups. **Results:** STER was successfully done in all cases without any severe complications such as perforation and mediastinitis. In STER group and laparoscopic group, mean procedure time was 110 ± 30 min, 150 ± 40 min, spectively (P < 0.05), The average tumor diameter was 1.8 ± 0.3 cm, 2.0 ± 0.4 cm, respectively (P > 0.05). The time patients stay in hospital was 8 ± 2 d, 11 ± 3 d, respectively (P < 0.05). The cost was 22,000 ± 3,000 rmb, 34,000 ± 3,000 rmb, respectively (P < 0.05). After STER, 5 patients got subcutaneous emphysema, and 2 cases had fever, the above 7 were healed after conservative treatment. There was no delayed bleeding, chest infection and other complications. While in control group, 6 cases had fever and 3 cases got delayed bleeding, the recovery time was obviously longer than STER group. **Conclusion:** STER could be a curative treatment for tumors originating from the propria layer of upper gastrointestinal tract.

**Key Word(s):** 1. STER; 2. EUS; 3. muscularis propria; 4. tumors;

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**PR0121**  
**Endoscopy and Imaging**  
(Diagnostic Imaging)  
**Endoscopic ultrasonography helps diagnose elevated lesions of duodenal tract**  
**Presenting Author:** YI XIANG CHANG  
**Additional Authors:** WEILI FANG, SHU LI,  
XIN CHEN, BANGMAO WANG  
**Corresponding Author:** YI XIANG CHANG,  
BANGMAO WANG  
**Affiliations:** Department of Gastroenterology of Tian Jin Medical University General Hospital

**Objective:** To investigate the diagnostic value of endoscopic ultrasonography (EUS) in diagnosing elevated lesions in duodenal tract. **Methods:** 199 patients with elevated lesions in duodenal tract who were admitted to our hospital between Apr. 2010 and Mar. 2013 were brought into this study. The type of lesions and diagnostic accuracy were confirmed by the follow-up endoscopy. Pathological diagnosis were obtained after surgery and endoscopy detection. **Results:** 87 lesions were located in duodenal bulb (43.7%). Other lesions were located in descending portion (56.3%). After EUS, 42 cases were diagnosed as cyst, 39 as Brunner’s adenoma, 23 as minor papilla, 19 as lipoma, 18 as polyp, 11 as ectopic pancreas, 10 as stromal tumour, 5 as malignant tumour, 3 as neuroendocrine tumour (carcinoïd tumour), 2 elevated lesions were pressured by outside organs, another 27 lesions had no diagnosis. Endoscopic therapy were carried in 48 patients, surgery in 12 patients, endoscopic follow-up in 33 patients from 3 months to 22 months. The diagnostic accuracy of EUS was 83.8% (78/93). **Conclusion:** EUS can clearly expose five layers of gastrointestinal tract and histological structure of adjacent organs, which is of great help to achieve definite diagnosis of elevated lesions in duodenal tract.

**Key Word(s):** 1. Endoscopic; 2. EUS; 3. duodenal;
**PR0123**

Endoscopy and Imaging (Diagnostic Imaging)

Prokinetics in video capsule endoscopy: A systematic review and meta-analysis

Presenting Author: IVAN MICHAELGARGOLES VICENTE

Additional Authors: JANUS ONG, MARK ANTHONY DE LUSONG

Corresponding Author: IVAN MICHAELGARGOLES VICENTE

**Affiliations:** Philippine General Hospital

**Objective:** About 20% of patients undergoing video capsule endoscopy (VCE) fails to complete the examination. This review assessed if prokinetics can result to an improved VCE completion rate, gastric transit time, and small bowel transit time. **Methods:** A search of randomized trials until November 2012 was obtained, using MEDLINE and PubMed databases, and the Cochrane Central Register of Controlled Trials. The keywords used were ‘video capsule endoscopy’ and ‘prokinetics’. Randomized controlled trials comparing prokinetics with placebo or no intervention were included. Each study was appraised by two independent reviewers using the Jadad Score. Meta-analysis was performed using the forest plot review. For outcome measures where forest plot was not feasible, a narrative review was done. **Results:** Two RCTs on erythromycin and five on metoclopramide involving 485 patients were included in the study. Metoclopramide improves VCE completion rate when compared to control (OR 1.93 [1.22, 3.06], p = 0.005), but not erythromycin (OR 1.13 [0.38, 3.33], p = 0.83). The two studies on erythromycin reported conflicting results with regards to gastric transit time. On the other hand, four out of the five studies on metoclopramide demonstrated significant improvement of gastric transit times among patients given metoclopramide. Metoclopramide and erythromycin were noted to have no effects on small bowel transit time. **Conclusion:** Metoclopramide may improve VCE completion rate. Such trend was not observed in erythromycin. However, due to moderate heterogeneity, more research is needed to confirm the benefit of giving metoclopramide in VCE.

**Key Word(s):** 1. Prokinetics; 2. Capsule Endoscopy; 3. Metoclopramide; 4. Systematic Review;

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**PR0125**

Endoscopy and Imaging (Diagnostic Imaging)

The nursing cooperation of endoscopic management after blockade of bare-metal stent for malignant biliary obstruction

Presenting Author: CHUN-YAN PENG

Corresponding Author: CHUN-YAN PENG

**Affiliations:** the first affiliated hospital of Nanchang University

**Objective:** To summarize the nursing cooperation of endoscopic treatment about patients after blockade of bare-metal stent for malignant biliary obstruction. **Methods:** From Jan 2004 to Dec 2012, we collected 68 patients with retreatment, including 44 males and 24 females, 63 to 84 years old (Mean = 75). The primary diseases included ampullary carcinoma 12 cases, pancreatic head cancer 4 cases, and cholangiocarcinoma 25 cases (including hilar bile duct carcinoma 32 cases). All cases were performed ERCP after Propofol anesthesia to observe the position of stent obstruction. When argile bilaire, tumor emboli or stone were developed, basket or balloon should be using to remove the retained stone. According to the radiographic findings, place stents with suitable size and material. Severe cholangitis can perform Endoscopic nose biliary drainage (ENBD) and insertion of stents after 3 to 7 days. Good preoperative and postoperative care is necessary for patients. **Results:** 98.52 percent of 68 patients with endoscopic retreatment were successes. 55 patients were settled with plastic stents (patency time – 125 days) and 12 with metal stents (patency time – 170 days). Only 1 case conducted PTCD. **Conclusion:** Although the retreatment of plastic or metal stents is safe and certain difficulty. Careful and considerate nursing care in perioperative period is essential. Cooperation and observation of endoscopic nurses in surgery is the key to ensure successful operation.

**Key Word(s):** 1. nursing; 2. biliary obstruction; 3. bare-metal stent;
Capsule endoscopy has been used in the diagnosis of small intestine diseases. Methods: 93 cases suspected small intestine disease from April 2009 to December 2012 in our hospital were analyzed, which underwent capsule endoscopy. Results: 93 patients successfully completed the examination, 73 cases were detected., the positive detection rate was 78.5%. Including 30 cases of malformation, 7 cases of small intestinal parasites, 5 cases of small intestinal ulcer, 3 cases of bleeding, 2 cases of small intestinal vascular malformation, 7 cases of small intestinal parasites, 5 cases of...
To overcome these limitation, we used papillotome. **Methods:** Between February 2009 and February 2010, the 3 patients in whom SEMS insertion was done with the new papillotome-guided method consisted of two with malignant sigmoid colon obstructions and one with metastatic splenic flexure obstructions. When usual angiographic catheter was failed to insert into the proximal part of the obstruction because of severely curved angulation, papillotome was introduced. Under fluoroscopic guidance, papillotome enabled the guide wire pass through the tortuous curved, narrowed bowel segment. After removal of papillotome, we performed stent placement through the guide wire. **Results:** Two of the patients underwent stent placement for palliation of colonic obstruction and one of them for preoperative decompression. The site of stricture was sigmoid colon in 2 patients, splenic flexure in 1 patient. In all patients, the clinical signs and radiographic findings of bowel obstruction resolved within 24 hours after stent placement. The ability for food ingestion and defecation was recovered immediately. Mean duration of the procedure was 33.7 hours after stent placement. The ability for food ingestion and defecation were recovered immediately. Mean duration of the procedure was 33.7 hours after stent placement. The ability for food ingestion and defecation were recovered immediately. Mean duration of the procedure was 33.7 hours after stent placement. The ability for food ingestion and defecation were recovered immediately. Mean duration of the procedure was 33.7 hours after stent placement.

**Conclusion:** We report 3 cases in whom SEMS was inserted with the new papillotome-guided method. The papillotome can be useful for colonic stent insertion especially in patients with malignant colonic obstruction with severely curved angulation.

**Key Word(s):** 1. papillotome; 2. colonic obstruction; 3. colonic stent;

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**PR0131**

**Endoscopy and Imaging**

**(Diagnostic Imaging)**

**The nursing experience of 4512 anesthetic ERCP**

**Presenting Author:** LIN GONG

**Corresponding Author:** LIN GONG

**Affiliations:** The first affiliated hospital of Nanchang University

**Objective:** Through retrospective analyze of 4512 anesthetic ERCP cases, we summarize the targeted nursing methods and techniques of no-pain technique. **Methods:** From Aug 2009 to Dec 2012, we collected 4512 anesthetic ERCP cases, including 1996 males and 2516 females, 8 to 89 years old (χ ± s = 56 ± 8). According to diseases, the patients were classified to 3118 bile duct stones cases, 724 bile duct neoplasms cases, 435 acute pancreatitis cases, 50 chronic pancreatitis cases, 152 pancreatic neoplasms cases and 33 other cases. A series of treatments were conducted, including EST, ENBD, EMBE, ERBD, ERPD, ENPD and so on. The posture requirements for patients were prone position and head to right side. It’s important to feel comfortable so use rectangular, thin and soft cushion under the chest. Nurses should institute a number of measures to better safeguard the patients. Vital signs should be monitored closely, especially oxygen saturation. Anesthesia machine, ventilator, patient monitor and emergency drugs are ready at all times for a sudden turn out. **Results:** 4512 patients finished ERCP successfully. Only 2% (9/4512) patients had respiratory depression and oxygen desaturation (55%–75%) and 13 cases had low blood pressure to 60/40 mmHg during operation. Treatments like stop operation, increase oxygen flow rate, hold up the jaw and speed up liquid transfusion were conducted immediately to ensure the safety of the patient. **Conclusion:** The application of no-pain technique in ERCP procedure is more comfortable and safer for patients. Before surgery, well-prepared of all equipments and medicines is essential. A series of measures should be carried out, such as improving first aid flow, setting up risk management team, establishing rules and regulations, and strengthening nurse training.

**Key Word(s):** 1. ERCP; 2. anesthetic; 3. nursing;

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**PR0132**

**Endoscopy and Imaging**

**(Diagnostic Imaging)**

**Clinical study of 26 Barrett esophagus cases by endoscopic radiofrequency treatment**

**Presenting Author:** HONG WEI

**Additional Authors:** YU-XUAN WANG, LU-JIA CUI

**Corresponding Author:** HONG WEI

**Affiliations:** Department of Gastroenterology/Hai Nan Provincial People’s Hospital

**Objective:** To evaluate the clinical efficacy of endoscopic radiofrequency treatment of Barrett esophagus. **Methods:** Method: Barrett of esophageal patients under gastroscope pathology, the gastroscopy esophageal insertion as the focus, the RF needle electrode and focal contact, using radio frequency treatment to the lesion site white. There were 17 cases of islands underwent a radiofrequency treatment, 2 cases underwent two times of island of radiofrequency treatment; 6 cases of peripheral type patient two times of radio frequency treatment, 1 cases of peripheral type patient three times of RFA treatment. **Results:** Results: 4 weeks after operation, 20 patients under the endoscopy mucosal surface of the original lesion were markedly changed, the mucosa is smooth; 4 patients of primary lesion were superficial depression. 6 months after operation, the pathology report 18 cases of squamous epithelium, 2 cases with mild dysplasia, 2 cases with intestinal metaplasia. **Conclusion:** Endoscopic radiofrequency treatment of Barrett’s esophagus is a safe, efficient, economic, worth popularizing therapy.

**Key Word(s):** 1. Barrett esophagus; 2. Radiofrequency;
pneumothorax in 2 (12.5%), gas under diaphragm in 1 (6.3%). All the complications were cured by conservative treatments. ALL patients were follow-up, and no other post operation complications occurred. Conclusion: POEM is an effective, feasible and safe therapy for achalasia, while the long-term efficacy and managements for complications are still to be elucidated.

Key Word(s): 1. POEM; 2. Achalasia;

PR0134
Esophageal, Gastric and Duodenal Disorders
A symptom survey in Hakkas: The evaluation of Chinese GERD questionnaire and GerdQ
Presenting Author: JINGJING WEI
Additional Authors: ZEHAO ZHUANG, JIAYUAN ZHUANG, DUPENG TANG, YILIN ZENG, CHENGDANG WANG
Corresponding Author: ZEHAO ZHUANG

Objective: To investigate the prevalence of gastroesophageal reflux disease (GERD) in the Hakkas and to evaluate the practicability of two questionnaires, including Chinese gastroesophageal reflux disease questionnaire (CGQ) and gastroesophageal reflux disease questionnaire (GerdQ) in this population. Methods: CGQ and GerdQ were used for GERD symptoms survey in a random sequence in a selected Hakkas community. Results: Paired questionnaires were collected from 203 subjects, including 104 males and 99 females. The positive rates were 12.3% and 4.9% by CGQ and GerdQ, respectively (P<0.05). A male predominant trend was found in GERD symptom positive cases surveyed by GerdQ (P<0.05), but not in those surveyed by CGQ (P>0.05). The incidence of GERD showed an increasing tendency with the aging, through no significant difference was found in age-stratification analysis. The positive rates were 12.3% in male and 6.3% in female (P<0.05). The positive rates were higher in males than females (P<0.05). The positive rates were higher in patients with more than 60 years old (P<0.05) compared to patients who were less than 60 years old. The positive rates were higher in patients with more than 60 years old (P<0.05) compared to patients who were less than 60 years old. The positive rates were higher in patients who were more than 60 years old (P<0.05). The positive rates were higher in patients who were more than 60 years old (P<0.05).

Conclusion: The GERD symptoms were quite common in Hakkas. The prevalence of GERD in this population is higher than in other populations. The practicability of two questionnaires, including CGQ and GerdQ, is acceptable.

Key Word(s): 1. GERD; 2. GerdQ; 3. Chinese GerdQ; 4. hakka dialect;

PR0135
Esophageal, Gastric and Duodenal Disorders
Analysis of endoscopic obvious mucosa injury nonsteroidal
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Objective: To investigate the clinical characteristics and risk factors of gastroduodenal damages induced by nonsteroidal anti-inflammatory drugs (NSAIDs). Strengthen to understand the disease. Methods: The sample consisted of 85 patients whose gastroduodenal damages were induced by nonsteroidal anti-inflammatory drugs (NSAIDs) at Ganzhou city people’s hospital from the January 2011 to April 2013. According to the endoscopic diagnosis, the patients were divided into two groups, erosive gastritis group and ulcer group. Record the patients’ age, sex, clinical symptoms, previous ulcer history, H. pylori infection, smoking history and kinds of NSAIDs. Results: ① Of 85 patients of gastroduodenal damages induced by NSAIDs, male 49, female 36, the male and female ratio 1.36:1, mean age (61.8±13.17) years, age range from 16–80 years, There were 47 patients who were more than 60 years old, 38 patients who were less than 60 years old, the degree of gastroduodenal damages in patients who were more than 60 years old was more serious than the patients who were less than 60 years old (P<0.05). ② Erosive gastritis in 52 (61.2%), located mainly in the gastric antrum (84.6%), Peptic ulcer in 33 (38.8%), mainly to active period of 24 patients (72.7%), also located mainly in the gastric antrum (60.6%). The HP infection in erosive gastritis group 12 cases (23.1%), The HP infection in ulcer group Hp 21 cases (66.9%), The Hp infection rates in ulcer group were higher than the erosive gastritis group. (P<0.05). ③ There were no differences in the clinical symptoms between Erosive gastritis group and ulcer group, abdominal pain as the main symptom. ④ Use single NSAID drug in 52 cases, two NSAIDs or combined with application of hormone, anticoagulants in 33 cases. The degree of gastro-duodenal damages in patients who used two NSAIDs was more serious than the patients who used single NSAID drug (P<0.05); Drug use time 7 to 15 days its relevance stomach highest incidence, medication for 15–1 m person, erosive gastritis is a high incidence of peptic ulcer (P<0.05); Time >6 m taking the peptic ulcer more erosive gastritis high rate (P<0.05). ⑤ Erosive gastritis group always have the interviewer ulcer in 3, peptic ulcer group he had a history of ulcer 7 cases, whereas patients with a prior the more easily again hair ulcer (P<0.05). Conclusion: The degree of gastroduodenal damages in patients who were more than 60 years old was more serious than the patients who were less than 60 years old. It occur basically in gastric antrum. TheHp infection rates in ulcer group were higher than the erosive gastritis group. The mean clinical symptoms was abdominal pain. The degree of gastroduodenal damages in patients who used two NSAIDs was more serious than the patients who used single NSAID drug, drug use time 7–15 d highest incidence; Previous ulcer NSAIDs correlation history is the risk factors of stomach problems.

Key Word(s): 1. gastroduodenal; 2. NSAIDs, H. pylori; 3. gastroscopy; 4. erosive gastritis;
PR0136
Esophageal, Gastric and Duodenal Disorders
The study of NSAID associated ulcer bleeding and peptic ulcer bleeding
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Objective: To compare the clinical characters of nonsteroidal anti-inflammatory drugs (NSAID) associated ulcer bleeding with the peptic ulcer bleeding through retrospective analysis. Methods: Five hundred sixty-nine patients who were hospitalized in our hospital diagnosed as peptic ulcer bleeding from February 2009 to January 2012 were divided into two groups according to taking NSAID or not. Results: Seventy-eight cases (13.7%) with NSAID associated peptic ulcer bleeding were included. Compared with 491 cases without NSAID associated, there were significant differences in age, gender, co-administration with anti-coagulant drugs or steroids, location and amount of ulcers, severity of anemia in elderly patients (P < 0.05). Conclusion: NSAID associated ulcer bleeding mainly occurred in stomach with more multiple ulcers, while patients seldom complained of epigastric pains. These ulcers were more common in 60-year-old or above patients, who suffered from more severe anemia.

Key Word(s): 1. NSAID; 2. peptic ulcer; 3. bleeding;

PR0137
Esophageal, Gastric and Duodenal Disorders
Characteristics of cervical heterotopic gastric mucosa in Chinese population
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Objective: Cervical heterotopic gastric mucosa is an area of heterotopic columnar mucosal islands resided in upper esophagus, and leads to a series of esophageal and extravesophageal symptoms and complications. In this study, we aimed to determine the prevalence of heterotopic gastric mucosa patch in Chinese population, evaluate the association of heterotopic patch with demographic and clinical characteristics and identify the endoscopic and histological features. Methods: A total of 101395 patients referred to three endoscopy units for elective endoscopy were enrolled between February 2008 and June 2010. Heterotopic gastric mucosal patch was examined during the withdrawal of the endoscope, and the macroscopic examination should be careful and thorough. Although malignant transformation of heterotopic patch was rare, endoscopic follow-up was reasonable and primarily specific for intestinal metaplasia and dysplasia. Clinical complaints, although not specific, should be paid attention to increase the detectable rate of heterotopic gastric mucosa due to our findings.

Key Word(s): 1. heterotopic patch; 2. gastric inlet patch; 3. endoscopic-prevalence; 4. Chinese population;

PR0138
Esophageal, Gastric and Duodenal Disorders
The expression of FoxA2 and its early alarm value of cancerous in gastric polyps
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Objective: To study the expression of FoxA2 in different pathological types of gastric polyps and the correlation with cancerous risk. Methods: Obtained gastric polyps and suspicious cancerous tissues by endoscopy and detected their histological types. We studied 35 cases of hyperplastic polyps, 31 cases of adenomatous polyps, 42 cases of fundic gland polyps, 30 cases of advanced gastric cancer tissues and 32 cases of normal gastric mucosa tissues by ABC immunohistochemical staining in this work, to detect the expression of FoxA2 in these different types of tissues. Imagepro plus was used to quantitative and statistical analysis the results. Results: The expression of FoxA2 in gastric cancer group was (96.27 ± 0.85)%), significantly higher than the normal gastric mucosa group (3.64 ± 2.9%), the difference was statistically significant (P < 0.05); In the three different types of gastric polyps, the expression of FoxA2 in adenomatous polyp group was similar to gastric cancer group (91.71 ± 2.64%), significantly higher than that of the proliferative inflammatory polyps (33.09 ± 8.04)% and fundic gland polyps (35.55 ± 5.60)% respectively (P < 0.05). There was no significant difference between the proliferative inflammatory polyps and fundic gland polyps. Correlation analysis with the clinic pathological parameters showed that there were no significant correlation between the expression FoxA2 and patients’ gender, age, predilection, H. pylori infection or proton pump inhibitor used. However, the size of the polyps was proved to have correlation with FoxA2. Conclusion: The expression level of FoxA2 in different types of gastric polyps can be used as the indicator of the clinical diagnosis of polyps risk prediction.

Key Word(s): 1. FoxA2; 2. gastric polyps; 3. gastric cancer; 4. cancer prediction;
**PR0139**

**Esophageal, Gastric and Duodenal Disorders**

**Diffuse esophageal spasm: A case report and literature review**

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**Objective:** Diffuse esophageal spasm (DES) is a rare type of esophageal motility disorder. *Methods:* Four diagnostic methods, barium administration, upper endoscopy, endoscopic ultrasonography and esophageal manometry, were used to reach the final diagnosis of DES. *Results:* We present a case of a 69-year-old male exhibiting vomiting and dysphagia for one year. DES may lead to severe dysphagia, chest pain, or vomiting. However, these symptoms are not specific enough to diagnose DES in clinical practice, which may delay diagnosis and lead to a worsening of conditions in patients. *Conclusion:* The hallmark of DES is simultaneous esophageal contractions. The causes of DES are still unknown, and the ideal treatment remains to be determined.

**Key Word(s):** 1. esophageal spasm; 2. case report; 3. literature review;

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**PR0140**

**Esophageal, Gastric and Duodenal Disorders**

**The clinical studies to the diagnostic value of serum pepsinogen levels in gastric cancer**

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**Objective:** To preliminary analysis the characteristics of change of serum levels of pepsinogen (PG) in gastric cancer, gastric precancerous lesions patients and healthy controls, and to preliminary investigate the relationship between serum PG, Helicobacter pylori (HP) infection with gastric cancer, gastric precancerous lesions. *Methods:* The serum pepsinogen I and II levels were measured by ELISA in 208 patients with different gastric diseases patients (40 cases of superficial gastritis, 41 cases of gastric ulcer, 46 cases of atrophic gastritis, 26 cases of dysplasia, 55 cases of gastric cancer) and 58 healthy controls. Serum Hp-IgG antibodies was detected by colloidal gold method. *Results:* 1) The serum PG I, PG II and PG I/PG II ratio (PGR) in superficial gastritis group were no significantly difference with in healthy controls (P>0.05). The serum PG I and PG II levels in gastric ulcer group were significantly higher than in healthy controls (P<0.01), PGR was significantly lower than in healthy controls (P<0.05). The serum PG I level and PGR in atrophic gastritis group, dysplasia group and gastric cancer group were significantly lower than in healthy controls (P<0.01), the serum PG II level was significantly higher than in healthy controls (P<0.05 or P<0.01). 2) The PGR in dysplasia group and gastric cancer group were significantly lower than in atrophic gastritis group (P<0.05 or P<0.01), but the serum PG I and PG II levels were no significantly difference among the three groups. 3) The areas under the ROC curves performed by the PG I and PGR from healthy controls and gastric cancer group were 0.808 and 0.879, respectively. With serum PG I ≤ 73.14 ng/ml or PGR ≤ 4.79 as the critical value, the sensitivity and specificity to the screening for gastric cancer were 90.9%, 72.4% respectively. 4) There were no difference to the positive rates of HP infection among healthy controls, superficial gastritis, peptic ulcer, atrophic gastritis, dysplasia and gastric cancer (56.9%, 65.0%, 78.0%, 69.6%, 57.7% and 76.4%, respectively) (P>0.05). The serum PG I, PG II and PGR in the same disease patients was no statistical difference between anti-Hp IgG positive and anti-Hp IgG negative (P>0.05). *Conclusion:* 1) The PGR is a downward trend in the healthy controls, superficial gastritis group, peptic ulcer group, atrophic gastritis group, dysplasia group and gastric cancer group. When PG I ≤ 73.14 ng/ml or PGR ≤ 4.79, that has better specificity and sensitivity to gastric carcinoma, and has important clinical value to the diagnosis for the gastric cancer and precancerous lesions. 2) The HP infection has little effects on the changes of serum pepsinogen levels in patients with gastric cancer, gastric precancerous lesions, and its definite mechanism remains to be further studied.

**Key Word(s):** 1. Gastric cancer; 2. Precancerous lesion; 3. Pepsinogen; 4. H. pylori;
PR0141
Esophageal, Gastric and Duodenal Disorders

A new esophageal pH capsule monitoring system in patients with GERD

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Objective: Conventional catheter pH monitoring for diagnosing gastrointestinal reflux disease (GERD) produces discomfort, inconvenience and interferes with daily activity. This study assessed the feasibility and safety of using a newly developed wireless JSPH-1 pH capsule system to monitor pH in patients with GERD. Methods: Ninety-one patients with symptoms suggestive of GERD entered the study. All patients underwent esophageal pH monitoring using the JSPH-1 pH capsule. Forty-five patients used conventional catheter pH measurement (MMS) as self-paired controls. The electrodes were positioned at the same level under chest X-ray. The pH data were recorded and capsule detachment was assessed by chest X-ray. Results: The capsule was successfully attached, and evaluable 24 h pH recordings were obtained in all patients. There were no significant differences of 24 h esophageal acid exposure recorded by the JSPH-1 pH capsule and MMS catheter in terms of total number of reflux episodes, the number of episodes longer than 5 min, the longest reflux time and percentage of total time with pH <4.0. Esophageal acid exposure over 24 h measured by the two devices showed a significant correlation (r² = 0.996, P < 0.001). Concordance of the diagnosis of GERD was 100% (κ = 1.000). Capsule detachment occurred spontaneously in 89 patients; two capsules required endoscopic removal due to chest pain. No severe adverse events were reported. The capsule system was associated with less interference with daily activity and diet. Conclusion: The JSPH-1 pH capsule provided a feasible and safe method for monitoring reflux in patients with GERD.

Key Words(s): 1. JSPH-1 pH capsule; 2. GERD;

PR0142
Esophageal, Gastric and Duodenal Disorders

The clinical studies to the role of the Treg, Th17, MDSCs in the progression of the gastric cancer

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Objective: This studies were detected the changes of Treg/Th17, MDSCs expressions in the peripheral blood of patients with gastric cancer, to preliminary approach to the role of CD4 + CD25 + Foxp3 + Treg, Th17, MDSCs in the development and progression of the gastric cancer.

Methods: The peripheral blood specimens from 77 cases gastric cancer, 21 cases gastric intraepithelial neoplasia, 33 cases atrophic gastritis, 45 cases gastric ulcer and 20 cases healthy controls were collected. The CD4 + CD25 + Foxp3 + Treg expressions were measured by flow cytometry, and the CD4 + IL-17 + Th17 expressions after the co-stimulation of PMA and Ionomycin were also measured by flow cytometry. The correlations between the Treg and Th17 expressions with age, sex, tumor location, TNM stage, depth of invasion and lymph node metastasis of gastric cancer were preliminary analyzed based on the clinical data. The peripheral blood mononuclear MDSCs percentage were measure by flow cytometry, and the correlation between the MDSCs with age, sex, tumor location, TNM stage, depth of invasion and lymph node metastasis of gastric cancer were preliminary analyzed.

Results: (1) The peripheral blood percentage CD4 + CD25 + Foxp3 + Treg cells of CD4 + T cell in gastric cancer [(4.72 1.01)%] was significantly higher than in gastric intraepithelial neoplasia [(3.23 0.38)%], in atrophic gastritis [(2.57 0.41)%], in gastric ulcer [(2.02 0.63)%], in healthy controls [(1.57 0.99)%] (p < 0.01), and were showed statistically significantly difference among the five groups (p < 0.01). The peripheral blood Th17 percentage of CD4 + T cells in gastric cancer [(8.16 3.13)%] was significantly higher than in gastric intraepithelial neoplasia [(6.80 2.12)%], in atrophic gastritis [(5.79 1.40)%], in gastric ulcer [(4.94 1.06)%] and in healthy controls [(4.85 1.85)%], and were showed statistically significantly difference among the five groups (p < 0.01). The peripheral blood percentage CD4 + CD25 + Foxp3 + Treg cells of CD4 + T cell in gastric cancer patients were correlated to the depth of infiltration, lymphatic metastasis, and clinical TNM stages, but were no related to the age, gender and tumor location. The peripheral blood Th17 percentage of CD4 + T cells in gastric cancer patients were no related with the age, gender, clinical TNM stages, depth of infiltration, and lymphatic metastasis. (2) The peripheral blood mononuclear MDSCs percentage in gastric cancer [(21.72 10.12)%] were significantly higher than in gastric intraepithelial neoplasia [(13.16 3.79)%], in atrophic gastritis [(7.74 1.14)%], in gastric ulcer [(4.79 1.07)%], in healthy controls [(2.90 1.80)%], and were showed statistically significantly difference among the five groups (p < 0.01). The peripheral blood mononuclear MDSCs percentage in advanced gastric cancer (IIa, IIIb, IIIa, Ib) were [(23.79 9.48)%] significantly higher than in early gastric cancer (Ia, Ib) [(11.74 4.01)%] (P < 0.05), but were no related with the age, gender, depth of infiltration, and lymphatic metastasis in gastric cancer patients. (3) The peripheral blood mononuclear MDSCs percentage were showed positive relation to the peripheral blood percentage CD4 + CD25 + Foxp3 + Treg cells of CD4 + T cell (r = 0.680) and the peripheral blood Th17 percentage of CD4 + T cells (r = 0.724).

Conclusion: (1) Gastric cancer patients may exist the high Treg and Th17 cells expressions in peripheral blood, That suggested there is a disturbance of Treg/Th17 in gastric cancer. (2) The peripheral blood mononuclear MDSCs percentage in gastric cancer patients is remarkable rise, which may be related with low immune function of gastric cancer and development in the gastric cancer.

Key Words(s): 1. Gastric cancer; 2. Treg; 3. Th17; 4. MDSCs;

PR0143
Esophageal, Gastric and Duodenal Disorders

Tobacco use in elderly patients with gastroesophageal reflux disease

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Objective: To study the frequency and intensity of smoking in elderly patients with GERD. Establish features of the factor group NERD, ERD, BE. Methods: Studied 1,100 patients GERD mean age 69.0 + 5.9 years, 453 patients with an average age of GERD 45.6 9.4 years and their peers without attribute GERD. Diagnosis of GERD was performed on the basis of the recommendations of the Montreal consensus. The extent of damage the esophageal mucosa was assessed using the Los Angeles classification. BE was defined as the presence of intestinal metaplasia in the distal...
esophagus. Isolated current smokers and patients with complete absence of a history of smoking (non-smokers). To estimate the intensity of tobacco use rate – packs/years (number of cigarettes smoked per day multiplied by the experience of smoking in years, divided by 20). **Results:** No dose response was smoking a risk factor for NERD – older patients (OR > 5 pack-years 5.87; CI:1.63 CI-7.99), with the effect of dose response contributed to the emergence ERD – in older patients (OR > 20 pack-years 2.76, CI: 1.08–4.45). Smoking had no effect on the development of NERD and ERD patients adulthood; dose response effect was predictive of BE in the elderly and middle-aged patients (OR > 20 pack-years 8.0, CI: 3.65–9.66 and 27, 5, CI: 5.26–35.72, a group of elderly and middle-aged, respectively). **Conclusion:** Intensity of smoking cigarettes, predetermining the severity of esophageal mucosal injury may be relevant for the development of specific forms of endoscopic disease, especially in elderly patients.

**Key Word(s):** 1. GERD; 2. NERD, ERD, BE; 3. tobacco use; 4. elderly patients;

**PR0144**
**Esophageal, Gastric and Duodenal Disorders**
**Effect of light-activated Aloe emodin on human gastric cancer cells**
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**Objective:** To investigated the effect of Aloe emodin-induced photodynamic therapy on proliferation and apoptosis effect of human gastric cancer cells. **Methods:** The cell survival rate was determined using MTT assay. The Ultrastructural changes was observed using Electron microscope. The morphology of apoptosis was using by TUNEL. The apoptosis rate was assessed using flow cytometry. **Results:** The inhibiting effect of Aloe emodin-induced photodynamic therapy On proliferation of human gastric cancer cells by means of a dose-dependent manner. Aloe emodin-PDT can significant induce apoptosis of the human Gastric cancer cells.

**Conclusion:** Aloe emodin-induced photodynamic therapy can be used as a effective novel treatment modalities for human gastric cancer cells.

**Key Word(s):** 1. Aloe-emodin; 2. photodynamic; 3. gastric cancer cells; 4. apoptosis;

**PR0145**
**Esophageal, Gastric and Duodenal Disorders**
**Clinical significance and correlation of livin and VEGF expression in gastric carcinoma tissues in Qinghai**
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**Objective:** To explore the roles of livin protein, an inhibitor of apoptosis protein, and vascular endothelial growth factor (VEGF) in invasion and metastasis of gastric cancer through investigating the expressions of they in gastric carcinoma (GC) and the correlation between these two proteins and clinical parameters. **Methods:** The expressions of livin and VEGF proteins were examined using immunohistochemistry in Sixty six gastric carcinomas and 30 normal gastric mucosal samples and compared between these two groups. **Results:** The positive rates of livin and VEGF were higher in gastric carcinoma (72.73% and 65.15%, respectively) than those in normal gastric mucosa (13.33% and 20%, respectively) (P < 0.05). Livin protein expression was related with tumor diameter, infiltration degree, differentiation degree, lymph node metastasis and clinical stage (P < 0.05). VEGF expression was not significantly related with differentiation degree of gastric cancer tissue, while was related with tumor diameter, infiltration degree, lymph node metastasis and clinical stage (P < 0.05). There was a positive relationship between the expressions in gastric carcinoma of livin and VEGF proteins (P < 0.05). **Conclusion:** The livin and VEGF expressions in gastric carcinoma tissues were significantly higher than those in normal gastric mucosa. The livin expression was related with tumor
diameter, differentiation degree of gastric cancer tissue, infiltrating degree, lymph node metastasis and clinical stage. VEGF expression was related with tumor diameter, infiltration degree, lymph node metastasis and clinical stage. There was a positive relationship between the expressions of livin and VEGF in gastric carcinoma, and they might have roles cooperatively in the occurrence and development of gastric carcinoma.

**Key Word(s):** 1. gastric carcinoma; 2. livin; 3. VEGF; 4. Qinghai area;

**PR0146**

**Esophageal, Gastric and Duodenal Disorders**

**Clinical significance of FAF1 & FLIP proteins expression in gastric cancer and precancerous lesions in Qinghai area**

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**Objective:** The aim of the paper was to study the expression and clinical significance of FAF1 and FLIP protein in gastric cancer and precancerous lesions in Qinghai area. **Methods:** The expressions of FAF1 and FLIP proteins were detected by immunohistochimistry technique in gastric tissues of 53 patients with gastric cancer and 52 patients with gastric precancerous lesions of atrophic gastritis, and compared with those in 50 normal gastric mucosa tissues. **Results:** The expression rates of FAF1 protein were 84.0%, 53.85% and 28.30% in normal gastric tissue, gastric tissue of precancerous lesions and gastric cancer tissue, respectively, and there were significant differences among three groups. The expression rates of FLIP protein were 38.00% and 36.54% and 81.13% in these three groups, respectively. There were significant differences between the gastric cancer group and other two groups in expression rates of FLIP protein (P < 0.01). FAF1 protein expression was related with histological differentiation of gastric carcinoma (P<0.05). FLIP protein expression was related to the gastric cancer metastasis and TNM staging. **Conclusion:** 1) The expression rates of FAF1 protein in normal gastric tissue, gastric precancerous lesions and gastric cancer reduced in turn. It indicated that the lack of FAF1 protein expression may play an important role in the differentiation, occurrence and development of gastric cancer. 2) The expression level of FLIP protein in gastric cancer tissues was obviously higher than those in the normal gastric tissue and gastric precancerous lesions. It indicated that the occurrence and transfer of gastric cancer might be related to inhibition of FLIP on the apoptosis mediated by Fas/FasL. **Key Word(s):** 1. FAF1; 2. FLIP; 3. gastric cancer; 4. Qinghai area;

**PR0147**

**Esophageal, Gastric and Duodenal Disorders**

**Expression of the TRPV1 and the CB1 in chronic gastroesophageal reflux rat**

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**Objective:** To determine the possible role of Vanilloid receptor 1 (TRPV1) and cannabinoid receptors (CB1 and CB2) in the dorsal root ganglion (DRG) of rats with chronic gastroesophageal reflux disease. **Methods:** Male Sprague-Dawley rats were randomly divided into reflux group (R group) and control group (S group), n = 6. To established the chronic reflux model, the fundus of the rat stomach was ligated and the pyloric sphincter was restricted. The expression of TRPV1 and CB1 in T1-T3 DRGs were analyzed by immunofluorescence and Western blot. **Results:** The expression of TRPV1 in DRGs relative to GAPDH was up-regulated (0.98 ± 0.01 vs 0.64 ± 0.09, p = 0.001), and the integrated optical density (IOD) of TRPV1-positive neurons was also increased (905.24 ± 134.82 vs 648.43 ± 135.13, p = 0.000). While CB1 was negative-regulated (relative to GAPDH: 0.86 ± 0.05 vs 0.96 ± 0.06, p = 0.013; IOD: 677.06 ± 123.75 vs 836.89 ± 101.00, p = 0.013). At the same time, CB2 was decreased (relative to GAPDH: 0.75 ± 0.03 vs 0.81 ± 0.05, p = 0.019; IOD: 513.99 ± 79.80 vs 709.63 ± 43.25, p = 0.000). The increased TRPV1 protein expression was tightly correlated with the decreased CB1 protein expression in DRG (r = -0.606, p = 0.037), but TRPV1 was not yet correlated with CB2 protein expression (r = -0.351, p = 0.263). **Conclusion:** The increased TRPV1 protein expression was strongly correlated with decreased CB1 protein expression of RE rats, which indicated that the acid plays a critical role in regulation of the receptor molecules. **Key Word(s):** 1. reflux disease; 2. TRPV1; 3. CB1; 4. CB2;

**PR0148**

**Esophageal, Gastric and Duodenal Disorders**

**The study on the proton pump inhibitors with mosapride treatment of gastroesophageal reflux disease**

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**Objective:** To explore the clinical effect of the proton pump inhibitors (PPI) with mosapride treatment of gastroesophageal reflux disease (GERD). **Methods:** A randomized and open study in a multi-center was adopted. Clinical observation questionnaire survey was performed on 130 patients to investigate relevant symptoms of gastroesophageal reflux disease (GERD). They were divided randomly into observed group (domperidone and rabeprazole) and control group (rabeprazole). In a follow-up of 4 weeks, scores were compared between the two groups after the treatment of 2 week and 4 week. **Results:** Compared with the baseline, the scores of both two groups had declined after 2 week and remarkably declined after 4 week with a significant difference. The observed group showed remarkably improvement of heartburn after 2 weeks and regurgitation after 4 weeks with a significant difference. The observed group showed a higher effective rate on the symptoms of heartburn and regurgitation than the control group after 2 week. **Conclusion:** The proton pump inhibitors (PPI) with mosapride can rapidly relieve the symptoms of gastroesophageal reflux disease (GERD). **Key Word(s):** 1. esophageal reflux; 2. mosapride; 3. Drug therapy; 4. combination;
**PR0149**

**Esophageal, Gastric and Duodenal Disorders**

**Research progress of primary gastric mucosa-associated lymphoid tissue lymphoma**

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**Objective:** To explore the research progress of primary gastric mucosa-associated lymphoid tissue lymphoma. **Methods:** To summarize the etiology, pathogenesis, diagnostic methods and basis, treatment and regimen of gastric MALT lymphoma. **Results:** Helicobacter pylori (HP) infection is the important cause of gastric MALT lymphoma, the chromosomal abnormality and the expression of NF-κB molecular pathway is also the important pathogenic factor in gastric MALT lymphoma. The chromosomal abnormalities include t (11; 18) (q21; q21), t (1; 14) (p22; q32), t (14; 18) (q32; q21) and so on. Endoscopy and immunohistochemical examination are helpful in diagnosis of this disease. Treatments include the HP eradication therapy, radiotherapy, surgery, chemotherapy and molecular targeted therapy. **Conclusion:** HP infection and chromosomal abnormalities are the major causes of gastric MALT lymphoma. The developments of endoscopy and immunohistochemical examination contribute to the diagnosis of gastric MALT lymphoma; the HP eradication therapy and radiotherapy are the main treatments.

**Key Word(s):** 1. Lymphoma; 2. Etiology; 3. Diagnosis; 4. Treatment;

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**PR0150**

**Esophageal, Gastric and Duodenal Disorders**

**ER stress is involved in gastric smooth muscle injury in diabetic rats with gastroparesis**

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**Objective:** Gastroparesis is a well-established complication of diabetes mellitus characterized by delayed gastric emptying without mechanical obstruction of stomach. Despite many years of intensive research, the pathophysiology of diabetic gastroparesis (DGP) remains to be elucidated. Previous studies have demonstrated that endoplasmic reticulum (ER) stress and/or ER stress-induced apoptosis contribute an important role in the pathogenesis of diabetes mellitus and its complications. The possible role of ER stress and/or ER stress-induced apoptosis in the mechanism of DGP remains elusive. Here we highlighted the muscular injury especially caused by ER stress in the rats with DGP in this work. **Methods:** Sixty rats were randomly divided into 2 groups: control group and diabetic group. Diabetic rats were induced by intraperitoneal injection of 60 mg/kg of streptozotocin. Gastric emptying was detected at 4th week and 12th week. The ultrastructural change of gastric SMCs was investigated under transmission electron microscopy. Annexin V-FITC/PI flow cytometry was used to assess apoptosis in SMCs. The expressions of ER stress marker GRP78, ER-specific apoptosis mediator caspase-12 protein were detected by Immunohistochemistry. **Results:** Gastric emptying was significantly lower in the diabetic rats than that in the control rats at the 12th week. Swollen, distended ER with irregular shape could be observed in gastric SMCs in diabetic rats. Apoptotic cell death was increased in the diabetic gastric SMCs consistent with increased expression of GRP78 and caspase-12 protein. **Conclusion:** Results from this study suggest that ER stress response and ER stress mediated-apoptosis is involved in gastric smooth muscle injury in diabetic rats with gastroparesis, which might play a role in the development of DGP.

**Key Word(s):** 1. diabetes; 2. apoptosis; 3. ER stress; 4. gastroparesis;

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**PR0151**

**Esophageal, Gastric and Duodenal Disorders**

**The role of NO in NSAIDs-induced gastric mucosal cell apoptosis**

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**Objective:** To elucidate the changes of NOS gene expression and mucosal NO content during IND-induced mucosal cell apoptosis. **Methods:** Healthy male Sprague-Dwley rats were treated intragastrically with four different doses of IND to induce gastric mucosal damage and the TUNEL in situ labelling technique was applied to detect mucosal cell apoptosis. The expressions of iNOS and nNOS mRNA were detected using in situ hybridization and RT-PCR techniques, while the change of NO content was measured using biochemistry colorimetric analysis. **Results:** In the intact gastric mucosa, the expression of iNOS mRNA was detected as a weak signal and the mean gray level was 141.2 ± 11.3. IND treatment caused significant increase in its expression. The positive signals in 30–60 mg/kg groups were moderate, and in 90–120 mg/kg groups, were strong. They were significantly increased as compared with control group. There was a significant positive relationship between iNOS mRNA expression and cell apoptosis. Strong signal of nNOS mRNA was detected in the intact gastric mucosa. IND treatment at the dose of 30 mg/kg caused a decline in its expression, which was not significant different from that of control group. But in groups of 60–120 mg/kg, the nNOS mRNA expression was markedly decreased as compared with control group. The mucosal content of NO in control group was 0.78 ± 0.04 umol/g prot. IND administration caused a significant increase of NO content. The NO content in the gastric mucosa was significant positive-related to cell apoptosis. **Conclusion:** IND administration caused a significant up-regulation of iNOS mRNA expression, but a dramatic down-regulation of nNOS mRNA expression, thus significantly increasing the mucosal NO production resulting in mucosal cell apoptosis at last.

**Key Word(s):** 1. gastric mucosa; 2. apoptosis; 3. NOS gene;
PR0152
Esophageal, Gastric and Duodenal Disorders
EGCG suppresses gastroesophageal refluxate induced NF-κB activation in esophageal epithelial cells
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Objective: Gastroesophageal reflux (GER) contents such as gastric acid and/or bile acids are powerful inducer of inflammatory responses resulting in disruption of major cellular pathways with transcriptional and genomic alterations driving the cells towards carcinogenesis. Most of the studies indicate that green tea polyphenol EGCG possesses antiinflammatory, antioxidant and chemopreventive effects. This study mainly to investigate the effect of mixed refluxate (acid, bile acids and trypsin) on expression of NF-κB signaling pathway in normal human esophageal epithelial cells and the effect of EGCG pretreatment of cells on activation of NF-κB induced by mixed refluxate. 

Methods: HEEC cells were incubated in a media containing different concentrations of EGCG (0, 5, 10, 20 μmol/L) for 4 hours and they were divided into experimental and control groups. The experimental group were acidified media (pH 6.5) treated with chenodeoxycholic acid (CDCA) (200 μmol/L) for 12 h and trypsin (10 U/mL) for the final hour. The control group were incubated without exposure to gastroesophageal refluxate. NF-κB DNA-binding activity was examined by EMSA and intracellular level of NF-κB was evaluated using ELISA, and the intracellular NF-κB reporter gene activity was measured with application of the luciferase reporter gene assay, and the level of expression of NFκB/p65, p-IKKα and proinflammatory cytokines such as IL-6, IL-8, COX-2 and iNOS proteins were examined by Western blot analysis. 

Results: GER contents exposure to HEEC can result in a significant increase in NF-κB DNA-binding activity and intracellular level of NF-κB was elevated. Treatment with GER contents result in significant enhancement of luciferase reporter expression compared to control and also lead to an decrease in the total cytosolic NFκB/p65 levels with a concomitant increase in nuclear NFκB/p65 levels. The levels of NFκB/p65, 1xBz, p-IKKα and 1xIkappaB phosphorylation and NFκB-regulated proteins IL-6, IL-8, COX-2 and iNOS in HEEC were increased. EGCG pretreatment of cells result in a significant inhibition of the GER contents-induced increase in the expression of these proteins and lead to an increase in the total cytosolic NFκB/p65 levels with a concomitant decrease in nuclear NFκB/p65 levels in experimental groups. These observations indicate that EGCG treatment of HEEC inhibits GER contents-induced phosphorylation and nuclear translocation of NFκB/p65. The differences of the level of NFκB between the experimental group and the control group were statistically significant (P < 0.01).

Conclusion: The activation of NFκB signaling pathway is involved in the effect on the inflammatory response of HEEC induced by GER contents. Green tea polyphenol EGCG can inhibit GER contents-induced NFκB activation in HEEC and downregulate NFκB-regulated gene expression, which may contribute to its ability to suppress inflammation, proliferation and angiogenesis induced by GER contents.

Key Word(s): 1. EGCG; 2. GER; 3. HEEC; 4. NF-κB;

PR0153
Esophageal, Gastric and Duodenal Disorders
The utility of chest CT scan after peroral endoscopic myotomy for achalasia
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Objective: Peroral endoscopic myotomy (POEM) is a new endoscopic method for achalasia. The aim of this study was to verify the clinical value of routine postoperative chest CT scan for detection of complications following POEM. 

Methods: A retrospective review was performed, including a total of 300 (male/female 146/154) during August 2010 and July 2012. The association between the CT findings and clinical and technical factors by uni- and multivariate analysis was studied.

Results: The main CT findings were pneumothorax 50 (17%), pleural effusion 200 (66%), pneumonia 158 (52%), pneumoperitoneum 113 (37%), focal atelectasis 63 (21%), pneumomediastinum 145 (48%) and subcutaneous emphysema 86 (28%). Of those with detectable pneumothorax only 17 patients needed intervention (5.6% of the total numbers). Only 1% with pleural effusion needed intervention, rest being managed by observation alone. Other CT findings were minor and did not need further intervention. In one patient a hematoma was observed on CT scan before any clinical manifestation occurred. Older patients had a higher risk for pneumothorax according to the CT scan results. The use of CO2 gas (versus room air) insufflation appeared to be associated with a reduced incidence of pneumothorax, pneumoperitoneum, pneumomediastinum and for subcutaneous emphysema. 

Conclusion: Chest CT scan for achalasia patients undergoing a POEM procedure can be used to detect early signs of postoperative bleeding, but routine application is probably not warranted. The role in guiding the management of post-POEM pneumothorax who need intervention has to be studied further.

Key Word(s): 1. POEM; 2. esophageal achalasia; 3. chest CT scan;

PR0154
Esophageal, Gastric and Duodenal Disorders
Risks factors associated with esophageal cancer in Iran; a review
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Objective: The incidence of esophageal squamous cell carcinoma (ESCC) shows geographic variation. Northeastern Iran (Golestan province) has one of the highest incidences of ESCC in the world, over 50 per 100,000 person-years. Aim: to identify host and environmental risk factors associated with ESCC in northeastern Iran.

Methods: we included published data of all ecologic, case-control studies, and the Golestan Cohort Study, (50,000 members) that conducted by the Digestive Disease Research Center of Tehran University of Medical Sciences (with collaboration of national and international cancer research centers) in the area during the last 13 years.

Results: Socio-economic status was inversely related to ESCC. The strongest inverse association was found with education. Poor oral health was also correlated to ESCC. A total of 16.7%, 13.7% and 0.7% of cohort members were current tobacco, opium and alcohol consumers respectively. Tobacco and opium use was strongly associated
with ESCC in the case-control study but alcohol consumption was not. About 98% of the cohort participants drank black tea regularly, (mean volume >1 L/d), 39.0% drank their tea at temperatures less than 60°C, 38.9% at 60–64°C, and 22.0% at 65°C or higher. Drinking very hot tea was associated with increased risk of ESCC (OR: 8.16, 3.93–16.9). Fresh vegetable, fruit and Vitamin A intake were low especially in ESCC cases and rural dwellers. Two cross sectional studies have confirmed high exposure of the general population to polycyclic aromatic hydrocarbons (PAHs). An ecologic study suggests that certain foods and cooking methods increase exposure to PAHs. In addition, levels of PAH DNA adducts were significantly higher in ESCC tissues than in normal tissues of cases and healthy controls. The highest rate of TP53 mutations ever reported in any cancer was observed. Also a high rate of p16 hyper methylation was reported in ESCC tissues. A nonsense variant of BRCA2 was associated with higher ESCC risk with a frequency of 4.6% among cases and 0.8% among controls. No selenium deficiency was observed among cohort members. Contamination with carcinogenic mycotoxins was not found in raw rice, sorghum and wheat samples. The prevalence of the gluten-sensitive enteropathy was about 1%, so this disease is unlikely to be a risk for ESCC in the area. Conclusion: The most important risk factors associated with ESCC were summarized. The ongoing studies are increasing knowledge of ESCC in Iran.

Key Word(s): 1. Iran; 2. Risk factors; 3. squamous cell; 4. Carcinoma;

PRO155
Esophageal, Gastric and Duodenal Disorders
Sodium nitroprusside (SNP) sensitizes human gastric cancer cells to TRAIL-induced apoptosis
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Objective: To investigate the effects of the Nitros oxide (NO)-donor sodium nitroprusside (SNP) on TRAIL-mediated apoptosis in human gastric cancer cells. Methods: The MTT assay and flow cytometry were used to detect cellular proliferation and markers of apoptosis, respectively. Expression levels of caspases-8, and 9 were determined by Western blot. Changes in NOS activity, NO production, and caspase activation were also evaluated. Results: We found that TRAIL induced apoptosis and cell cycle arrest in human gastric cancer cell lines, and that this effect was mediated by NO production, and activation of both the extrinsic and intrinsic signaling pathways of apoptosis. In addition, we found that the NO-donor SNP sensitizes gastric cancer cells to TRAIL-mediated apoptosis. Treatment of cells with both TRAIL and SNP resulted in increased activation of caspase-8 and caspase-9 and NO release. Inhibition of caspase-8 blocked cell TRAIL-mediated apoptosis, while a selective caspase-9 inhibitor was unable to prevent apoptosis induced by either TRAIL or TRAIL plus SNP. Inhibition of NO synthetase (NOS) could block the activation of caspase-9, but had no obvious effect on cell apoptosis. Conclusion: SNP sensitized gastric cancer cells to TRAIL-induced cytotoxicity by stimulating the release of NO, in turn facilitating the mitochondria-mediated signal transduction pathway. The engagement of the mitochondria signaling pathways along with the TRAIL death receptor signaling pathway synergistically increase levels of apoptosis in these cells.

Key Word(s): 1. SNP; 2. TRAIL; 3. apoptosis; 4. cell cycle;

PRO156
Esophageal, Gastric and Duodenal Disorders
Celecoxib inhibits Helicobacter pylori-induced invasion of gastric cancer cells
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Objective: Cyclooxygenase-2 (COX-2) inhibitor, celecoxib, causes growth inhibition of human gastric carcinoma cells, but it remains unclear whether celecoxib inhibits Helicobacter pylori-induced invasion of gastric cancer cells. The adenine nucleotide translocator (ANT) is a mitochondrial bi-functional protein. We speculate that ANT-dependent pathways might contribute to H. pylori-induced invasion and metastasis of gastric cancer cells. Methods: we evaluate the effect of celecoxib on H. pylori-induced gastric cancer cell motility and invasion. We also explore the role of ANTs in H. pylori-induced gastric cancer cell motility and invasion of gastric cancer cell line AGS. Results: Our results demonstrate that celecoxib induces anoikis-like apoptosis and suppresses the proliferation and invasion of gastric cancer cells induced by H. pylori in culture. RT-PCR and Western blot analysis indicates that celecoxib upregulates the expression of ANT1 and ANT3; however, celecoxib did not increase the expression of ANT2. Conclusion: celecoxib could be an effective means for suppressing proliferation and invasion of gastric cancer cells induced by H. pylori through an adenine nucleotide translocator–dependent mechanism.

Key Word(s): 1. COX-2 inhibitors; 2. celecoxib; 3. gastric cancer; 4. invasion;

PRO157
Esophageal, Gastric and Duodenal Disorders
Inhibiting peritoneal metastasis of gastric cancer-associated angiogenesis by ZnPPIX in vivo
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Objective: A phage-displayed peptide PIII was obtained previously in our lab, which could specifically bind to the surface of human gastric cancer cell with high peritoneal metastasis potential. In following study confirmed Heme Oxygenase-1 (HO-1) was natural ligand of PIII. Methods: To appraise the role of HO-1 on peritoneal metastasis of gastric cancer, tumor-bearing mice with peritoneal metastasis were injected intraperitoneal with HO-1 inhibitor zinc protoporphyrin IX (ZnPPIX, 10 μg/ml), HO-1 inducer cobalt protoporphyrin IX(CoPPIX, 10 μg/ml, positive control) or copper protoporphyrinIX(CuPPIX, 10 μg/ml, negative control) which does not inhibit HO-1 activity. Results: Finally, the number, size of peritoneal metastatic nodules and ascites in tumor-bearing nude mice in ZnPPIX group decreased remarkably compared with CoPPIX and CuPPIX treated groups (P < 0.05). The CD31 labeled tumor microvessel density (MVD) value and expression of vascular endothelial growth factor (VEGF) of peritoneal metastatic nodules in ZnPPIX group decreased significantly (P < 0.05), while survival rate was higher than that in the other two groups (P < 0.01).

Conclusion:
n conclusions, ZnPPiX inhibited in vivo tumorigenicity and angiogenesis. Our findings support that selective inhibition of HO-1 alone plays an instrumental role on peritoneal metastasis of gastric cancer associated angiogenesis.

**Key Word(s):** 1. Heme Oxygenase-1; 2. Zinc IX; 3. Stomach Neoplasms; 4. Metastasis;

**PR0158**

**Esophageal, Gastric and Duodenal Disorders**

**Endosonographic characteristics of esophageal achalasia in patients**

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**Objective:** Endoscopic ultrasonography (EUS) has been used in diagnosing esophageal achalasia because it can provide high-resolution images of the esophageal wall and adjacent structures. However, the results remain inconsistent. The purpose of this study was to evaluate the characteristics of EUS in achalasia and the relationships between endosonographic appearance and clinical or manometric features in achalasia.

**Methods:** Forty-three (mean age: 41 years, 25 male and 18 female) patients with achalasia underwent esophagogastroduodenoscopy, esophageal manometry, and EUS. Symptoms were assessed with Eckardt scores. The thickness of muscularis propria was measured endosonographically at 25 cm, 30 cm, 35 cm, and 40 cm from the incisors and at the gastroesophageal junction (GEJ). Of the 43 patients evaluated, 23 had spindle-type achalasia (Group A), 14 had flask-type (Group B), and 6 patients had sigmoid type (Group C).

**Results:** The thickness of muscularis propria was significantly greater in Group B than A and C when measured at 25 cm (P = 0.02) and 30 cm (P = 0.03) from the incisors. The thickness was greater in Group B than Group A and C when measured at 35 cm from the incisors (P = 0.01). There was no significant difference in the thickness of muscularis propria measured at the GEJ (P > 0.05) and 40 cm from the incisors (P = 0.45) among the groups. There was very little correlation between the thickness and symptom scores (r = -0.2, P = 0.15), or the average pressure of the lower esophageal sphincter (r = 0.3, P = 0.13). However, the duration of symptoms was negatively correlated with the thickness of muscularis propria (r = -0.5, P = 0.04). **Conclusion:** The appearance of muscularis propria thickening was common in patients with achalasia. EUS may be valuable in evaluating the severity of achalasia as we indicated an inverse relationship between the duration of symptoms and the thickness of the muscularis propria.

**Key Word(s):** 1. POEM; 2. achalasia;

**PR0159**

**Esophageal, Gastric and Duodenal Disorders**

**Clinical analysis of 161 cases of Primary duodenal malignant tumors**

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**Objective:** Objective: To explore the sites, pathological type of the primary duodenal malignant tumors, especially differences in young and middle-aged and elderly patients and to find out inspection methods in early.

**Methods:** Methods: The statistics of 161 cases of cases was performed, the first symptoms, and the detection rate of the relevant checks, pathological features, and abnormal serum tumor markers of primary duodenal malignant tumors. To explore their respective characteristics and the value of early diagnosis of the disease.

**Results:** Results: Young group and older group, with no specific clinical manifestations. The average duration from onset to diagnosis is 2.3 months. The tumors in young group patients mainly occur in the duodenal papilla. The tumors in older group patients mainly occur in descending part (excluding nipple). There has no significant difference in the incidence of site between Two groups. The manly pathological type of the young group patients and older group patients are both adenocarcinoma. There has no significant difference in the pathological type between Two groups. The highest detectable rate of auxiliary examination is duodenoscopy, followed by ERCP. The highest detectable rate methods of serological detection are γ-GT and CA199.

**Conclusion:** 1. Primary duodenal malignant tumors is lack of specific clinical manifestations and difficult to detection early. 2. There’s no statistical difference in the diseases and pathological type of the elderly and young patients. They mainly occur in the papilla. The most pathological types of the two groups are adenocarcinoma. 3. The key to promoting survival rate of primary duodenal malignant tumors is early diagnosis. 4. Primary duodenal malignant tumors are lack of relative specificity of serological markers, but the γ-GT, and CA199 have high value in early diagnosis of the disease.

**Key Word(s):** 1. duodenal tumors; 2. the lesion site; 3. pathological type;
Methods: want to study SIBO after high dose PPIs for post ESD induced ulcer. Retrospectively, there are few reports of SIBO after long term PPIs therapy. So we provoked into gastric and small intestinal bacterial overgrowth (SIBO) theoretically. There are few reports of SIBO after long term PPIs therapy. So we want to study SIBO after high dose PPIs for post ESD induced ulcer. Clinical diagnosis of SIBO was made by GBT using lactulose. Total 12 patients who underwent ESD were involved in this study. After 3 months-period of the use of high dose PPI (pantoprazole 20 mg q 12 hours) to these patients, the rate of SIBO positive conversion and affecting factors were investigated. Among 26 patients, 12 patients were excluded by exclusion criteria (use of antibiotics for 3 patients; follow-up refuse of GBT for 7 patients; 2 patients with chronic lung disease). 12 of 14 patientes were negative GBT before high dose PPI use. 4 of 12 patients resulted in GBT positive after high dose PPI. In others age, sex, histology, mass size, ESR & CRP were not associated significantly with SIBO. Conclusion: SIBO positive conversion rate after high dose PPI medication is about 33%. Compared with 28.6% in normal population, high dose PPI may has no significant effect on SIBO. The limitation of this study was that the number of patients was small, so further investigations need to be made with enough number of patients.

Key Word(s): 1. esophageal carcinoma; 2. Hugl-1; 3. tumor suppressor; 4. adhesion;
**PR0164**
Esophageal, Gastric and Duodenal Disorders
LSD1 promotes invasiveness and predicts poor prognosis in patients with ESCC
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**Objective:** Lysine specific demethylase 1 (LSD1) was the first discovered histone demethylase, can act on epigenetic regulation of tumor suppressing/promoting genes. The expression and contribution of LSD1 in esophageal squamous cell carcinoma (ESCC) is still unknown. Here, we tried to investigate the relationship between LSD1 and ESCC both on clinical tissues and cell lines, to find novel molecular therapeutic targets for ESCC. **Methods:** A total of 134 cases of histologically confirmed ESCC, 23 cases of esophageal precancerous lesions and 29 cases of normal esophageal tissues were involved in study. Immunohistochemistry, RT-PCR and Western blot were performed to detect LSD1 expression in tissues and cell lines. Knock-down of LSD1 via shRNA-delivered lentivirus and inhibited the LSD1 demethylation using tranylcypromine. Cell migration and invasion were evaluated using wound and transwell assays. **Results:** 75.4% ESCC was observed LSD1-positive at the nuclei, of which, 43.7% of LSD1-positive cells were associated with strengthened staining, which is higher than normal mucosal (51.7%) or precancerous tissues (73.9%)(p < 0.05). LSD1 expression was correlated with lymph-node metastasis and may be predictive of poorer prognosis in ESCC patients. There was a discrepancy in LSD1 expression in ESCC cell lines and endogenous up-regulation of LSD1 promotes cell motility and migration in vitro. What’s more, knockdown of LSD1 significantly abrogated migration of cells. Tranylcypromine suppressed cells motility and invasiveness via regulating demethylation of H3K4me2/H3K4me1. **Conclusion:** The high expression of LSD1 in ESCC was correlated with lymph-node metastasis and the prognosis of patients. LSD1 may serve as a potential prognostic indicator and be a molecular target for inhibiting invasion and metastasis in ESCC.

**Key Word(s):** 1. LSD1; 2. ESCC; 3. Invasion; 4. Prognosis;

**PR0166**
Esophageal, Gastric and Duodenal Disorders
Combined effect of TRADD lentiviral vector and TNF-α on proliferation and collagen I synthesis of HSFb
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**Objective:** Construct a lentiviral vector containing the human tumor necrosis factor receptor associated death domain protein (TRADD) gene. Explore the combined effect of TRADD lentiviral vector and TNF-α on proliferation and collagen I synthesis of hypertrophic scar fibroblast (HSFb) and fetal fibroblast (FFb). **Methods:** The TRADD specific fragment was amplified by polymerase chain reaction (PCR) and cloned into the EcoR I site of the lentiviral vector pLVX-EGFP-3FLAG-Puro. The recombinant plasmid was transformed into DH5α competent cells and identified by colony PCR, then the positive clones were detected by DNA sequencing analysis. TRADD lentiviral vector was produced after the 293FT packing cells were co-transfected with pLVX-TRADD-EGFP-3FLAG-Puro and lentiviral packaging plasmids, while titer of virus was detected by Real-time PCR and expression of TRADD-GFP-FLAG fusion protein was analyzed by Western-blot. After transfection with the TRADD lentiviral vector and treated with 10 ng/ml TNF-α, the proliferation and collagen I synthesis of HSFb and FFb were measured by methyl thiazolyl tetrazolium (MTT) and enzyme linked immunosorbent assay (ELISA), respectively. **Results:** Positive clones of 1200 bp straps were obtained, and TRADD gene sequence of the cloned was consistent with that in Genbank. The green fluorescence and fusion protein were observed in 293FT cells after transfection with TRADD lentiviral vector. Real-time PCR showed the titer of the virus was 3.22×108 IU/ml. TRADD lentiviral vector could selectively prohibit proliferation of HSFb through up-regulating TRADD expression, while 10 ng/ml TNF-α showed no significant effects on growth of HSFb and FFb. The combined effect of TRADD lentiviral vector and 10 ng/ml TNF-α on inhibiting collagen I synthesis of HSFb was stronger than that of FFb. **Conclusion:** In this study, the TRADD lentiviral vector is constructed successfully. It is indicated that TRADD lentiviral vector associated with 10 ng/ml TNF-α can reduce the formation of hypertrophic scar through prohibiting proliferation and collagen I synthesis of HSFb, which lays the foundation of gene therapy for esophageal restenosis occurred after the esophageal stent implantation.

**Key Word(s):** 1. TRADD; 2. TNF-α; 3. lentivirus; 4. hypertrophic scar;
**PRO167**  
**Esophageal, Gastric and Duodenal Disorders**  
**Serum pepsinogen, gastrin 17 and endoscopy in dyspeptic patients**  
**Presenting Author:** HONG OUYANG  
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**Objective:** The gastric mucosa biomarker—serum pepsinogen tests can be used on non-dyspeptic healthy subject in cancer screening. In our previous study, pepsinogen showed to have mild predictive power on endoscopic abnormality. This study is to explore the feasibility to use serum pepsinogen plus gastrin 17 as screening tool for dyspeptic patient before upper GI endoscopy.  
**Methods:** Dyspeptic patients came for upper endoscopy in continuous time period is accessed for serum pepsinogen and clinical data. Endoscopy findings, mucosa histology and serum pepsinogen levels is analyzed.  
**Results:** 248 patients included, mean age 47.31 ± 11.19 yd; all cases obtained biopsy form both part of stomach. 233 patients get additional gastrin 17 test. Patients PG II serum level is not differ with normal or abnormal endoscopy findings (13.08 ± 8.93 vs. 12.30 ± 10.28, p = 0.3712), While G17 does have significant difference. Patients with abnormal endoscopic findings have higher serum G17 (5.99 ± 11.58 vs. 3.44 ± 5.75, p = 0.02163).  
**Conclusion:** Serum gastrin 17 test might be useful predicting endoscopy abnormality in dyspeptic patients.

**Key Words:** 1. dyspepsia; 2. pepsinogen; 3. gastrin; 4. endoscopy;  

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**PRO168**  
**Esophageal, Gastric and Duodenal Disorders**  
**Research of the apoptosis and mechanism on the esophageal cancer ECa109 cells induced by EGCG**  
**Presenting Author:** JIANCHAO MENG  
**Additional Authors:** QIANG TONG, HESHENG LUO  
**Corresponding Author:** JIANCHAO MENG, QIANG TONG  
**Affiliations:** Taihe Hospital; Renmin Hospital of Wuhan University

**Objective:** To explore the effects and apoptotic induced by epigallocatechin-3-gallate (EGCG), and to detect the methylation status and the expression levels of the p16 gene in human esophageal cancer ECa109 cells.  
**Methods:** Esophageal cancer ECa109 cells were treated 24, 48, 72, 96 hours by EGCG in 0, 25, 50, 100, 200 mg/L, respectively. The optical density were assayed by Methyl thiazolyltetrazolium blue method (MTT) to observe the viability of ECa109 cells. The apoptosis were detected by flow cytometry after treated with different concentrations EGCG in 96 hours. Using methylation specific polymerase chain reaction (MSP) analyzed the methylation status of p16 gene after intervention with different concentrations EGCG in 96 hours. The expression of p16 were measured by real time fluorescence quantitative polymerase chain reaction (FQ-PCR) and p16 protein was tested using Western blot.  
**Results:** (1) After treated with different concentrations EGCG in different time, the viability of ECa109 cells decreased in dose-and time-dependent manner. After treated with EGCG in 96 h, the relatively quantitative expression of p16 mRNA respectively were 1.18 ± 0.43, 1.29 ± 0.11, 1.52 ± 0.74, 1.67 ± 0.37 in groups of 25, 50, 100, 200 mg/L. Compared with groups of 0 mg/L (1.00 ± 0.00), the difference was significant (P < 0.05); (2) At 96 h, the rate of apoptosis in ECa109 cells detected by flow cytometry were 9.98%, 15.60%, 19.40%, 27.20% after treating by 25, 50, 100, 200 mg/L EGCG, respectively. Compared with groups of 0 mg/L (0.21%), the difference was significant (P < 0.05); (3) After treated 96 h by EGCG, the p16 gene were hypermethylation at the 0 mg/L and 25 mg/L, partial methylation at 50 mg/L, and demethylation at 100, 200 mg/L. (4) After treated with EGCG in 96 h, the relatively quantitative expression of p16 mRNA respectively were 1.18 ± 0.43, 1.29 ± 0.11, 1.52 ± 0.74, 1.67 ± 0.37 in groups of 25, 50, 100, 200 mg/L. Compared with groups of 0 mg/L (1.00 ± 0.00), the difference was significant (P < 0.05); (5) After treatment by EGCG in the five concentrations, the p16 protein of ECa109 cells were no expression at the 0 mg/L and 25 mg/L, and recover expression at 50, 100, 200 mg/L showed by Western blot.  
**Conclusion:** Our results suggested that EGCG could significantly inhibit growth of ECa109 cells, and induce apoptosis in a dose-and time-dependent manner; (2) EGCG can demethylation the p16 gene and increased its expression of mRNA and protein; (3) The impact of EGCG on ECa109 cells may associated with reversing hypermethylation and increasing mRNA and protein expression of the p16 gene.

**Key Words:** 1. Esophageal cancer; 2. ECa109 cells; 3. EGCG; 4. Methylation;  

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**PRO169**  
**Esophageal, Gastric and Duodenal Disorders**  
**Early therapeutic analysis on the treatment of Barrett’s esophagus with argon plasma coagulation**  
**Presenting Author:** WENQIAN ZHU  
**Corresponding Author:** WENQIAN ZHU  
**Affiliations:** Wuhan university

**Objective:** To explore the safety and clinical effect of the argon plasma coagulation combined with proton pump inhibitor on Barrett’s esophagus.  
**Methods:** Eighty-six patients with Barrett’s esophagus confirmed by endoscope and pathology method were treated with APC and PPI treatment (20 mg a time, twice a day, for four to eight weeks). All the patients were rechecked by endoscope and pathology method on 1, 6, and 12 month after treatment.  
**Results:** The follow-up was accomplished in all patients. The eradication was obtained in 40 cases by only one session and 6 cases by two sessions. The reappearance of columnar epithelium was observed in 6 patients during 1 year, the rate of reappearance is 6.9%.  
**Conclusion:** The APC therapy combined with PPI is safe and effective in the reversal of BE.  
**Key Words:** 1. endoscopy; 2. PPI; 3. curative effect; 4. Barrett’s esophagus;  

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**PRO170**  
**Esophageal, Gastric and Duodenal Disorders**  
**Fetal esophageal development and PI3K/Akt/m-TOR signal transduction pathway**  
**Presenting Author:** YANG CHUNCHUN  
**Additional Authors:** BAI WENYUAN, ZHANG XIAOLI  
**Corresponding Author:** YANG CHUNCHUN  
**Affiliations:** The Second Hospital of Hebei Medical University

**Objective:** In this study, We determine expression levels of PI3K, Akt, CyclinD1 and p-mTOR, which are considered to be key genes of PI3K/Akt/m-TOR signal pathway, in the different-month-old fetus esophagus, in order to explore the PI3K/Akt/m-TOR signal pathway during development of human esophagus, to investigate the pathogenesis of Barrett’s esophagus and to verify that is a congenital disease.  
**Methods:** Collect different months of normal esophagus (NE) of fetal (April, May, June, July 6 cases each), HE staining then pathological examination of the organizational structure under the light microscope, detect expression of PI3K, Akt,
Immunohistochemical staining

1. PI3K protein is observed in the nucleus mainly, some cytoplasm can also be found: the April month-old fetal esophageal strong positive, 5–7 month-old fetus the esophagus is weak positive to positive expression. PI3K protein expression is gradually declined with the increase of the conceptus age. The MOD differences among the groups are statistically significant (P < 0.05).

2. Akt protein expression found in nucleus, some can also be found in the cytoplasm: in the April month-old fetal esophageal strong expression, 5–7 month-old fetus the esophagus is weak positive to positive expression. PI3K protein expression is gradually declined with the increase of the conceptus age. The MOD differences among the groups are statistically significant (P < 0.05).

3. p-mTOR protein expression found in nucleus, some can also be found in the cytoplasm: in the April month-old fetal esophageal strong expression, 5–7 month-old fetus the esophagus is weak positive to positive expression. PI3K protein expression is gradually declined with the increase of the conceptus age. The MOD differences among the groups are statistically significant (P < 0.05).

4. CyclinD1 protein expression found in the cytoplasm, some can also be found in nucleus: in the April month-old fetal esophageal is positive, 5–7 month-old fetus the esophagus is negative to weak positive expression. CyclinD1 protein expression is gradually declined with the increase of the conceptus age. The MOD differences among the groups are statistically significant (P < 0.05).

5. The gene expression analysis: there is a good correlation between Akt and PI3K (r = 0.849, P < 0.05), Akt and CyclinD1 (r = 0.846, P < 0.05), Akt and p-mTOR (r = 0.699, P < 0.05), PI3K and CyclinD1 (r = 0.903, P < 0.05), PI3K and p-mTOR (r = 0.888, P < 0.05), CyclinD1 and p-mTOR (r = 0.852, P < 0.05).

Western blot

1. PI3K protein expression decreased gradually with the increase of the fetal conceptus age: the optical density ratio in April and May, June, July was statistically significant (P < 0.05). But the optical density ratio between May, June and July are no statistically significant (P > 0.05)

2. Akt protein expression decreased gradually with the increase of the fetal conceptus age: the differences of the optical density ratio between the groups are statistically significant (P < 0.05).

3. CyclinD1 protein expression decreased gradually with the increase of the fetal conceptus age: the optical density ratio in April and May, June, July are statistically significant (P < 0.05). But the optical density ratio among May, June and July are no statistically significant (P > 0.05)

4. p-mTOR protein expression decreased gradually with the increase of the fetal conceptus age: the optical density ratio between April and July is statistically significant (P < 0.05). But the differences of optical density ratio among April, May and June are no statistically significant (P > 0.05) the differences of optical density ratio among May June and July are no statistically significant (P > 0.05)

5. The gene expression analysis: there is a good correlation between Akt and PI3K (r = 0.44, P < 0.05), Akt and CyclinD1 (r = 0.46, P < 0.05), PI3K and CyclinD1 (r = 0.251, P < 0.05) PI3K and p-mTOR (r = 0.351, P < 0.05), CyclinD1 and p-mTOR (r = 0.852, P < 0.05). The correlation between the following protein is not so good: Akt and CyclinD1 (r = 0.306, P < 0.05), CyclinD1 and p-mTOR (r = 0.221, P > 0.05).

Conclusion: In fetal esophagus, the expression of each key gene in PI3K/Akt/mTOR signal pathways declines with the increase of months, suggesting that there is a link between the signal pathways and differentiation and apoptosis in the process of development of the fetal esophagus.

P13K/Akt/mTOR signal pathway involved in the pathogenesis of Barrett’s esophagus, suggesting that the Barrett’s esophagus may be thus differentiated from stem cells are activated, be determined by congenital causes.

Key Words: 1. BE; 2. PI3K; 3. Akt; 4. CyclinD1;

PR0171

Esophageal, Gastric and Duodenal Disorders

Study on the expression and significance of Smac and XIAP in gastric ulcer tissues

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Objective: To analyze the expression changes of Smac and XIAP before and after gastric ulcer healing, and related role in the HP infection gastric ulcer.

Methods: The gastric mucosal tissue apoptotic cells and the expression levels of Smac and XIAP were detected using terminal deoxynucleotidyl transferase mediated dUTP nick end labelling (TUNEL) and Immunohistochemistry and Western blot.

Results: Ulcers treatment before gastric epithelial cell apoptosis index was significantly higher than the after treatment and normal gastric tissue the (P < 0.01); No significant difference between treatment group with normal gastric tissue (P > 0.05); Smac and XIAP positive expression rate of 40 cases of gastric ulcer tissues were 97.5% (39/40), 65.0% (26/40), the normal control group Smac and XIAP positive expression rate of 100.0% (10/10), 20.0% (2/10), gastric ulcer group XIAP positive expression rate is higher than the normal control group (P < 0.05). Gastric ulcer tissue before treatment Smac positive expression intensity were (+ +) to (+ + +); XIAP expression intensity were (+) to (+ +); The normal controls Smac were (+) to (+ + +), XIAP expression levels were (−) to (+). A negative correlation was found between the expression of Smac and XIAP in GU lesions (P < 0.05). Smac expression in normal tissue group was weaker than before treatment group expression, but strong in the treatment group (p < 0.01), healing before Smac expression was stronger in the healing (P < 0.01); XIAP expression in normal tissue strength were weaker than healing before and after the tissue (P < 0.05), the XIAP expression of extent of the ulcer before and after treatment no significant difference (P > 0.05). Conclusion: Smac expression to promote apoptosis of gastric epithelial cells, may lead to gastric ulcers, the development and impact of its healing; XIAP high expression may play an important role in the healing of mucosal repair, and ulcers. Smac and XIAP may be an important part of the HP-induced gastric ulcer occurs apoptosis signaling network.

Key Words: 1. Gastric ulcer; 2. Smac; 3. XIAP; 4. apoptosis;

PR0172

Esophageal, Gastric and Duodenal Disorders

The value of GerdQ for the diagnosis of gastroesophageal reflux disease in Chinese people

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Objective: Gastroesophageal reflux disease questionnaires (GerdQ) has been applied as a screening diagnostic test for gastroesophageal reflux disease (GERD) in western country. But the value of GerdQ in Chinese
people remained uncertain. So the aims of the study were to assess the validation of GerdQ for the diagnosis of GERD and to explore the optimal diagnostic critical value of GerdQ for Chinese people. **Methods:** Patients with heartburn and/or reguriation selected from outpatient service were presented with a six-item GerdQ, which included heartburn, reflux, epigastric pain, nausea, sleep disturbance, and additional medicine. Gastroscopy and 24-hour esophageal pH-impedance monitoring were also carried out in these patients. The patients with esophagus erosion under gastroscopy or and the DeMeester Score more than 14.72 were diagnosed as GERD. The results were compared with GerdQ score to determine the diagnostic cut-off score for GERD. **Results:** A total of 122 patients with reflux-related symptoms were questioned, including 63 male and 59 female. When the GerdQ cut-off score came to 9, the maximal Youden index was 0.358 and the area under receiver operating characteristic was 0.699, with the sensitivity of 0.23%, specificity of 0.55%, as well as the true positive diagnostic rate of 81.18% and true negative diagnostic rate of 54.05%. **Conclusion:** GerdQ is approved as a suitable, easy handle method in initial diagnosis of GERD. The diagnostic score of GerdQ for Chinese people is 9, which is different from that for western people. **Key Word(s):** 1. GERD; 2. GerdQ; 3. gastroscopy; 4. pH monitoring;

**PR0174**

**Esophageal, Gastric and Duodenal Disorders**

**Detection of smad4 promoter methylation in esophageal cancer of Kazakh Chinese in Xinjiang province**

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**Objective:** Detect the smad4 promoter methylation in esophageal squamous cell carcinoma of Kazakh Chinese in Xinjiang province and descriptive its role in the development and progression of Kazakh’s esophageal squamous cell carcinoma. **Methods:** In the present study we use MassARRAY technology to detect the methylation status of smad4 gene promoter in 33 cases of Kazakh esophageal squamous cell carcinoma and 38 cases of local normal esophageal tissue that selected from esophageal high incidence-Ili Kazak Autonomous Prefecture of Xinjiang. **Results:** ① The average methylation rate of smad4 gene promoter CpG units were 3.4% in Kazakh esophageal cancer and 2.5% in control groups, the difference was not statistically significant (P > 0.05). ② The average methylation rate of smad4 gene in Kazakh esophageal CpG units of CpG units 1, CpG units 16–18, CpG units 27–28, CpG units 31–32 were 1.6%, 4.3%, 4.8%, 6.8%, and the average methylation rate is significantly higher than the control group (0.7%, 2.2%, 3.0%, 5.5%), the difference was statistically significant (P < 0.05). **Conclusion:** From the above, our finding that smad4 gene promoter methylation in Kazakh esophageal cancer may support an association with cancer development, the change in status that smad4 gene promoter methylation in CpG Unit 1, CpG units 16–18, CpG units 27–28, CpG units 31–32 may connected with the development of Xinjiang Kazakh esophageal cancer. **Key Word(s):** 1. Kazak; 2. esophageal cancer; 3. smad4 gene; 4. methylation;
PR0175
Esophageal, Gastric and Duodenal Disorders
Sporadic fundic gland polyps are not associated with proton pump inhibitor therapy
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Objective: Sporadic fundic gland polyps (FGPs) are now the most common gastric polyps. Some studies reported that proton pump inhibitor (PPI) therapy seemed to be associated with FGPs. However, data were controversial. We aimed to identify whether FGPs were induced by PPI therapy in our population.

Methods: Consecutive patients with FGPs detected were retrospectively analyzed. Data including patients’ age, sex, symptoms, H. pylori infection, history of PPI use, and the polyps were documented. Each patient was compared with two randomly selected age and sex matched controls in the same period.

Results: A total of 328 patients were diagnosed as FGPs in 23,047 patients who underwent routine esophagogastroduodenoscopy. The mean age was 55.12 ± 12.61 years, and 75.91% were women. H. pylori infection was detected in 64 patients with FGPs (22.30%), and 224 patients without FGPs (42.26%, P < 0.001). Overall, a total of 54 patients with FGPs (16.46%), and 136 patients without FGPs (20.73%) received PPI therapy (P = 0.073). According to different duration of PPI use, no significant difference in PPI intake was found among the subgroups. The PPI use was also similar, regardless of ages, sexes, polyps number, and H. pylori infection.

Conclusion: Sporadic FGPs may not be induced by PPI therapy, and unnecessary anxieties ought to be avoided.

Key Word(s): 1. Fundic gland polyps; 2. PPIs;

PR0176
Esophageal, Gastric and Duodenal Disorders
Effects of cognitive factors on quality of life in patients with functional dyspepsia
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Objective: To explore the impact of cognitive factors related to causes, symptoms, treatments, prognosis on health-related quality of life and severity of symptoms in patients with functional dyspepsia.

Methods: We enrolled 182 consecutive outpatients (52.7% female patients, mean age 40.5 years) with functional dyspepsia based on the Rome III criteria. Patients were interviewed and evaluated by the Cognitive Questionnaire, the Nepean Dyspepsia Index and the Functional Dyspepsia Severity Scale. Multiple linear regression models were built for Nepean Dyspepsia Index, dyspepsia Severity Scale and anxiety to assess the independent factors associated with the cognitions in patients with functional dyspepsia.

Results: FD patients believed that different somatisation symptoms induced by different diseases distinguishing from FD, dyspeptic symptoms affected by dietary, economy and emotion were reported by 52.7%, 80.2%, 23.1%, 37.3%, respectively. FD patients thought that their diseases would be completely diagnosed by the equipments, and the disease could be cured, they had fears of an underlying serious disease like cancer, they need hospitalization were reported by 80.2%, 86.4%, 14.3%, 14.3% respectively. FD cases considered that only took medicine could control the symptoms, tradition Chinese medicine was effective, the symptoms were induced by polyps of stomach and gallbladder diagnosed, pharmacologic therapy was ineffective if symptoms should be not gradually reduced in those receiving the drugs were reported by 53.8%, 59.3%, 53.8%, 56%, respectively. Accept to take medication intermittently for several years were 39.5%. 60.5% of the patients accepted drugs within a month rather than a long period. Symptoms disappear partly by treatments were reported by 49.3%. Constituent ratio was not significantly different in accepting that the symptoms are induced by polyps of stomach and gallbladder diagnosed (p = 0.051), and symptoms disappear partly (p = 0.111). Correlations analyses showed: 1) the cognition of different somatisation symptoms induced by different diseases distinguishing from FD (P = 0.045), symptoms affected by emotion (P = 0.006), and patients had fears of an underlying serious disease like cancer (P = 0.039) were associated with NDI; 2) symptoms affected by economy (P = 0.007) were associated with anxiety; dietary contributed to dyspeptic symptoms (P = 0.032) and only took medicine could control the symptoms (P = 0.023) were associated with anxiety in PDS patients; 3) symptoms affected by emotion (P = 0.016) was associated with severity. Multiple linear regression analysis demonstrated that: 1) somatisation symptoms induced by different diseases distinguishing from FD (P = 0.002), symptoms affected by emotion (P = 0.009), patients need hospitalization rather than treatments in out-patient department (P = 0.006), and accepted to take medication intermittently for several years (P = 0.029) were associated with NDI; 2) symptoms affected by emotion (P = 0.001) and patients accepted symptoms disappearing partly (P = 0.049) were possible influential factors associated with anxiety; 3) symptoms affected by emotion (P = 0.033) was a possible precipitating factor associated with severity of symptoms.

Conclusion: There are differences between the cognitions of FD patients and the current medical levels. Quality of life, anxiety and severity are possible effect by the cognitions related to somatisation symptoms, the relationship between symptoms and dietary, economy, emotion, medicine, whether they had an underlying serious disease like cancer, whether the cases need hospitalization, and whether accept symptoms disappear partly. This study suggested that addressing these issues among patients with FD may be helpful to enhance treatment response in future further studies.

Key Word(s): 1. Functional dyspepsia; 2. Cognitive factors; 3. NDI; 4. Dyspepsia Severity;

PR0177
Esophageal, Gastric and Duodenal Disorders
Detection smad4 promoter methylation in esophageal cancer of Kazakh and Han nationality in Xinjiang
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Objective: Discuss the level of smad4 promoter methylation in esophageal squamous cell carcinoma of Kazakh and Han nationality in Xinjiang and the relationship between smad4 promoter methylation and esophageal squamous cell carcinoma.

Methods: Collect 33 cases of
Kazak esophageal squamous cell carcinoma and 38 cases of local normal esophageal tissue, and 32 cases of Han nationality esophageal squamous cell carcinoma and 34 cases of local normal esophageal tissue, using MassARRAY methylation DNA quantitative analysis technology to detect the methylation status of smad4 gene promoter. **Results:** ① The average methylation rate of smad4 gene promoter CpG units were 3.44% in Han nationality esophageal cancer and 3.18% in control groups, the average methylation rate of smad4 gene promoter CpG units were 3.41% in Kazak esophageal cancer and 2.51% in control groups, the difference was not statistically significant (P > 0.05). ② The average methylation rate of smad4 gene in Han nationality esophageal CpG units 15 (4.75%) is significantly higher than the control group (3.62%); The average methylation rate of smad4 gene in Kazak esophageal CpG units 1, CpG units 16–19, units 27–28, units 31–33 (1.66%, 4.34%, 4.81%, 6.81%) were significantly higher than the control group (0.72%, 2.24%, 3.06%, 5.51%), the average methylation rate of CpG units 6 in Kazak esophageal cancer (1.84%) is significantly higher than the control group (0.44%); The average methylation rate of CpG units 14, units 16 between Kazak (6.51%, 4.34%) and Han nationality (6.87%, 4.03%) normal tissue were difference; the average methylation rate of CpG units 6, units 15, units 16–19, units 27–28, units 31–33 between Kazak (0.011%, 0.031%, 0.022%, 0.030%, 0.055%) and Han nationality (0.004%, 0.048%, 0.040%, 0.049%, 0.079%) normal tissue were difference; the difference was statistically significant (P < 0.05). **Conclusion:** ① Smad4 gene promoter hypermethylation was Participate in esophageal cancer both in Kazak esophageal cancer and Han nationality esophageal cancer and may be used as diagnostic markers. ② Smad4 gene promoter hypermethylation in CpG Unit 15 may connected with the Kazakh esophageal cancer. Hypermethylation in CpG units 1, units 16–19, units 27–28, units 31–33 may be the early events and connected with the Kazakh esophageal cancer. Smad4 gene promoter hypermethylation in CpG Unit 6, Unit 16–19 may the reason that High incidence of Kazakh esophageal cancer than Han nationality esophageal cancer.

**Key Word(s):** 1. Han nationality; 2. Kazak; 3. smad4 gene; 4. esophageal cancer;

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**PR0178**

**Esophageal, Gastric and Duodenal Disorders**

**A preliminary study on the gastric electrical activity in the patients with GIST**

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**Objective:** Gastrointestinal stromal tumor (GIST) is the most common mesenchymal tumor in gastrointestinal (GI) tract. It’s believed that GIST is originated from interstitial cells of Cajal (ICCs) in the GI tract or the stem cells to ICCs differentiation. ICCs are responsible for pacing GI slow wave and mediating neurotransmitter transport, and play a role in the regulation of GI motility. Furuzonoc in Japan found that GIST cells appear to preserve some ionic mechanisms underlying pacemaker activity in ICC. So GISTs, especially GIST tumourlets are likely to preserve the biological functions of ICCs, and the normal gastric myoelectrical activity is possible to be disturbed by them. Then the gastric motility disorders maybe occur. The purposes of the study are to explore if the normal gastric myoelectrical activity would be disturbed by GIST. **Methods:** The parameters of 25 patients with gastric GIST, 14 patients with gastric leiomyoma and 22 healthy volunteers were detected by the multichannel electrogastrogram (EGG) and the data were analyzed. The parameters include DF, DP, N%, B%, T%, A% and SWC%. **Results:** Spatial characters of gastric myoelectrical activities in the three groups: The fasting and postprandial DF is inconsistent among four channels in GIST group, but they were same among four channels in leiomyoma group and healthy group; The fasting DP of three groups had no significant difference among four channels, but the postprandial DP increased from CH1 to CH4 in leiomyoma group and healthy group while the postprandial DP of CH1 was higher than others in GIST group; The postprandial N% of CH4 in the healthy group was higher than proximal channels, but the postprandial A% of proximal channels was higher than CH4; Similar characteristics were found in GIST group, but the difference was not statistically significant. Temporal characters of gastric myoelectrical activities in the three groups: The fasting and postprandial DF, DP and N% were significantly higher, and A% was significantly lower than those in the fasting state in the healthy group. However, those postprandial parameters changes were not found in GIST group. SWC% was decreased in three groups after the meal, but SWC% decreased significantly after the meal in GIST group. The fasting DF was significantly higher in GIST group than that in the other two groups, but the postprandial DF had no difference among the three groups. The fasting DP of healthy group was lower but the postprandial of healthy group was higher than the corresponding values in the GIST group and leiomyoma group. The N% of GIST group was lower than that of the other groups. The WC% of GIST and leiomyoma group were lower than that of healthy group. The Temporal and spatial characteristics of the fasting DF, DP, the postprandial DF, DP, N% and A% in GIST group were similar to the corresponding values in healthy group after ESD treatment. **Conclusion:** The presence of gastric GIST may interfere with the normal fasting and postprandial reaction of stomach and result in the different DF in different regions of the stomach. N% of the patients with GIST reduced, and gastric dysrhythmia is more likely to occur. The normalization of the postprandial electric rhythm is disturbed. And the spatial coordinate of slow wave is also disturbed. Gastric myoelectrical activity can be recovered partially but not completely after ESD. **Key Word(s):** 1. Electrical Activity; 2. GIST;
PR0179  
**Esophageal, Gastric and Duodenal Disorders**  
*Helicobacter pylori infection and gastric mucosal active inflammation in patients with FD*

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**Objective:** Functional dyspepsia and chronic gastritis can’t be distinguished by the current Rome III criteria. Whether these “functional dyspepsia patients” were diagnosed appropriately is still controversial. Aims: To investigate H. pylori infection and gastric active inflammation in patients with functional dyspepsia.  
**Methods:** A total of 223 patients diagnosed with functional dyspepsia by Rome III criteria were recruited. All patients were submitted to endoscopic examination, rapid urease test and histological evaluation. We also appraised the effect of a 7 day treatment based on the Glasgow Dyspepsia Severity Score.  
**Results:** H. pylori infection and neutrophil infiltration were found in 37.7% and 36.3% cases respectively, and were both more frequent in the EPS subgroup than in the other two subgroups. In addition, neutrophil infiltration was more common and severe in the H. pylori-positive individuals than in the patients without infection (Mann-Whitney U = 431.500, P = 0.000). The treatment was useful in symptom improvement of all three subgroups, and the EPS subgroup had the greatest difference of symptom scores before and after treatment as compared with the PDS and PDS/EPS subgroups (P < 0.001). Conclusion: Our findings showed many H. pylori-positive subjects diagnosed as “functional dyspepsia” were actually chronic gastritis patients. A strong association was also observed between H. pylori infection and active inflammation. Besides, the EPS subgroup are likely to be patients with “active gastritis under microscope”, who also benefited most from the treatment of proton pump inhibitors or eradication of H. pylori.  
**Key Words:** 1. functional dyspepsia; 2. H. pylori; 3. inflammation;

PR0180  
**Esophageal, Gastric and Duodenal Disorders**  
*Deoxycholic acid induces Cdx2 expression through activation of FXR in human gastric epithelial cell*

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**Objective:** Clinical and experimental studies showed that the reflux of bile into the stomach contributes to the induction of intestinal metaplasia of the stomach and gastric carcinogenesis. Caudal-type homebox 2 (Cdx2) plays a key role in the exhibition of intestinal phenotypes by regulating the expression of intestine-specific genes such as goblet-specific gene mucin 2 (MUC2). We aimed to study the role of Farnesoid X Receptor (FXR) in the mechanism of gastric intestinal metaplasia induced by deoxycholic acid (DCA).  
**Methods:** Human gastric epithelial cell line (GES-1) was treated with DCA of different concentrations for different periods of time. MTT assay was applied to analyze the proliferation rate of GES-1 cell line. Real-time PCR and Western Blot were used to analyze the mRNA and protein expression levels of FXR, Cdx2 and MUC2 with or without GW4064 and Guggulsterone.  
**Results:** (1) DCA promoted the proliferation of GES-1 with low-moderate dose (100, 200 μmol/L) for short time (3, 6 h). On the contrary, DCA inhibited the proliferation of GES-1 with high dose for long time (24, 48 h) (P < 0.05). (2) DCA upregulated the expression of FXR, Cdx2 and MUC2 in a dose dependent manner when treated with DCA. The highest expression levels of three genes occurred on condition of treatment with DCA (400 μmol/L, 6 h) (P < 0.05). When being treated with 400 μmol/L DCA, FXR and Cdx2 showed highest expression levels at 6 h. The highest expression level of MUC2 is at 12 h, later than FXR and Cdx2. (P < 0.05). (3) FXR agonist GW4064 enhanced the three genes expression levels. Oppositely, FXR antagonist Guggulsterone attenuated their expression. (P < 0.05). Conclusion: (1) DCA promoted the proliferation of GES-1 with low dose for short time. DCA of high dose for long time inhibited the proliferation of GES-1 cell. (2) DCA induced Cdx2 expression through FXR in GES-1 cells. FXR may play an important role in the induction of gastric intestinal metaplasia and carcinogenesis induced by DCA.  
**Key Words:** 1. Deoxycholic Acid; 2. Farnesoid X Receptor; 3. Cdx2;
PR0182
Esophageal, Gastric and Duodenal Disorders
Influence of gender on reflux disease questionnaire for reflux esophagitis patients
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Objective: Objective To investigate whether gender play a role in the result of reflux disease questionnaire (RDQ). Methods: 263 patients with reflux esophagitis received Chinese version of RDQ. The frequency and severity of chief complaints (heartburn, substernal chest pain, acid regurgitation, food regurgitation) were quantified respectively. The secondary and accompanied symptoms were simply recorded as positive or negative. We compared the results in different gender groups. Results: The severity of esophagitis was not statistically different between two gender groups (P > 0.05) The RDQ score in female group was higher than in male group (P > 0.01). Female had more severe and frequent chief symptoms than male. For secondary or accompanied symptoms, female preferred to have more dysphagia, foreign body sensation, early satiety and constipation than male (P < 0.01). Conclusion: In patients with reflux esophagitis, the RDQ score of female was higher than that of male, female were inclined to have more severe and frequent subjective symptoms than male.

Key Word(s): 1. reflux esophagitis; 2. RDQ; 3. gender difference;

PR0183
Esophageal, Gastric and Duodenal Disorders
The clinical observation of A’latanwuweiwan on functional dyspepsia
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Objective: To evaluate the efficacy and safety of A’latanwuweiwan on functional dyspepsia (FD). Methods: one hundred and twenty patients with FD were randomly assigned to itopride hydrochloride group or A’latanwuweiwan plus itopride hydrochloride, the treatment lasted for 4 weeks. Efficacy was assessed by digestive symptom scores, the efficiency and the onset time before and after four-week treatment. Results: There were no significant differences in terms of gender, age, medical history and initial clinical symptom score between the two groups. After 4 weeks of treatment, compared to itopride hydrochloride group, A’latanwuweiwan plus itopride hydrochloride significantly reduce the gastrointestinal symptoms score (A’latanwuweiwan plus itopride hydrochloride vs. itopride hydrochloride: 3.8 ± 2.5 vs. 5.7 ± 1.9, p < 0.001), had significant efficiency (72.3 ± 12.0% vs. 51.0 ± 17.2%, p < 0.001), and more short onset efficiency (8.1 ± 2.1 vs. 12.5 ± 2.3, p < 0.001). There were no obvious adverse reactions in the both groups. Conclusion: The combination therapy of A’latanwuweiwan and itopride hydrochloride A’latanwuweiwan is effective for treatment of FD.

Key Word(s): 1. Barrett’s esophagus; 2. COX-2; 3. Bcl-2; 4. APC;

PR0184
Esophageal, Gastric and Duodenal Disorders
The expression of COX-2 mRNA in Barrett’s esophagus before and after argon plasma coagulation
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Objective: To compare the expression of COX-2 mRNA in Barrett esophagus before and after treatment, analyze the efficacy of argon plasma coagulation in combination with acid suppression in BE patients.

Methods: The BE patients diagnosed with endoscopy and biopsy were randomly classified into 3 groups, group A served as control, group B treated with PPI after APC, group C subjected to PPI treatment. The clinical effect was observed in the follow-up patients and endoscopy examination were taken. We used quantitative real-time PCR (Taqman) to access the mRNA expression of COX-2 in Barrett esophagus before and after treatment. Total tissue RNA was extracted from BE. COX-2 mRNA was quantitatively analyzed by monitoring the increase in fluorescence by the binding of SYBR green to double-stranded DNA during real-time PCR (Sequence detection system, TaqMan; Applied Biosystems, CA). The copy numbers of cDNA for COX-2 were standardized to glyceraldehyde-3-phosphate dehydrogenase from the same samples. Results: 1) All the treatment can alleviate or relieve the symptoms of BE compared to group A. There were no significant differences between them. 2) Patients of group B whose BE epithelium were eradicated and replaced with squamous epithelium. The sizes of Barrett’s esophagus didn’t change significantly in group A, C by endoscopy. 3) The expression of Cox-2 in group B is similar to the level of sham-control. The expression of Cox-2 in group C also decrease, but there was no significant differences before and after treatment. Conclusion: PPI treatment can’t eradicate BE, but they can relieve clinical symptoms and decrease the expression of Cox-2 in BE epithelium. Argon plasma coagulation combined with PPI can eradicate BE epithelium and relieve clinical symptoms and decrease the expression of Cox-2 to the normal level. It is an effective, safe and promising therapy against Barrett’s esophagus.

Key Word(s): 1. Barrett’s esophagus; 2. COX-2; 3. Bcl-2; 4. APC;

PR0185
Esophageal, Gastric and Duodenal Disorders
Bile salt exposure induce expression of tight junction protein Claudin-4 in squamous epithelium
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Affiliations: A member of standing committee, Association of Chinese Digestive Disease

Objective: To investigate the effects of bile salt exposure on expression of tight junction proteins claudin-4 in squamous epithelium of gastro-esophageal reflux disease and the role of the p38 MAPK in this course.

Methods: Tissue samples from 80 patients with reflux esophagitis (RE, n = 31), and Nonerosive reflux disease (NERD, n = 29) and Barrett’s esophagus (BE, n = 20) were obtained in routine upper GI endoscopy. Expression of claudin-4 in tissue samples were measured by immunohistochemical staining. Expressions of claudin-4 and p38 in esophageal squamous cells treated by bile salt were detected with reverse transcriptase polymerase chain reaction (RT-PCR) and western blot method. Also, 24-h pH monitoring was performed in all patients with RE and NERD.
Results: Immunohistochemical analyses showed that the expression of claudin-4 in RE and BE tissues was increased compared with the NERD. There was a significant correlation between DeMeester score and the level of the claudin-4 expression (r = 0.53, P = 0.04). Bile salt induced claudin-4 and p38 MAPK expression in esophageal squamous cells. SB203580, an antagonist of p38, inhibited expressions of claudin-4 induced by bile salt in esophageal squamous cells. Conclusion: Our findings suggest that bile salt exposure induce expression of tight junction protein claudin-4 in squamous epithelium in gastroesophageal reflux disease through a mitogen-activated protein kinase-dependent mechanism.

Key Word(s): 1. GRED; 2. claudin-4; 3. p38

PR0186
Esophageal, Gastric and Duodenal Disorders
Analysis of clinical characteristics of heterotopic gastric mucosa in duodenum
Presenting Author: WEI ZHU
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Affiliations: nanfang hospital

Objective: Heterotopic gastric mucosa (HGM) in duodenum is a rare congenital embryonic residual lesion, and patients always show the symptoms of functional dyspepsia (FD) or chronic gastritis in clinical, so it has a big misdiagnosis rate. In this paper, we analyzed 134 cases of HGM in duodenum to investigate the characteristics of its diagnosis and treatment.

Methods: We performed gastroscopy, endoscopic resection and pathological examination to patients who have symptoms of FD or chronic gastritis when HGM in duodenum was found. Meanwhile, we also analyzed Helicobacter pylori (Hp) infection and got symptom score before and after treatment using Glasgow score.

Results: In all 4650 patients, 135 patients (2.9%) are diagnosed as HGM in duodenum. The main symptoms of these patients are epigastric discomfort, acid reflux, bloating and so on. According to the Rome III standard classification, 92 cases (69.2%) can be diagnosed as postprandial distress syndrome (PDS) and 43 (31.8%) epigastric pain syndrome (EPS). HGM of the duodenum is mainly located in the duodenal bulb (93.3%) and rare in the descending part (6.7%). The morphology mainly divides into 4 types: the multiple nodular uplifts the most (57%), single polyp or multiple granular uplift (34%) are the second, and ulcerative (6.7%) and mass (2%) are the least. The last two types are easily misdiagnosed as peptic ulcer or tumor because of their atypical morphology. It is meaningful to distinguish the atypical HGM using endoscopic ultrasound (EUS). The performance under the EUS is untypical morphology. It is meaningful to distinguish the atypical HGM types are easily misdiagnosed as peptic ulcer or tumor because of their second, and ulcerative (6.7%) and mass (2.2%) are the least. The last two types are easily misdiagnosed as peptic ulcer or tumor because of their atypical morphology. It is meaningful to distinguish the atypical HGM using endoscopic ultrasound (EUS). The performance under the EUS is untypical morphology. It is meaningful to distinguish the atypical HGM types are easily misdiagnosed as peptic ulcer or tumor because of their second, and ulcerative (6.7%) and mass (2.2%) are the least.

Conclusion: HGM in duodenum is the reason why the symptoms in part of patients with FD or chronic gastritis attack again and again. And it will be helpful to improve the symptoms by resecting the HGM under the endoscopy.

Key Word(s): 1. HGM; 2. Duodenum; 3. Functional dyspepsia; 4. Endoscopy

PR0187
Esophageal, Gastric and Duodenal Disorders
Characteristics of synchronous multiple primary early esophageal and gastric cardia carcinomas in high-risk areas
Presenting Author: SHUO GUO
Additional Authors: LIWEI ZHANG
Corresponding Author: LIWEI ZHANG
Affiliations: Hebei Medical University Fourth Hospital

Objective: To investigate the population characteristics and endoscope features of synchronous multiple primary early esophageal and gastric cardia carcinomas and precancerous lesions (SMPECs) in high-risk areas.

Methods: A retrospective analysis of 23561 cases with endoscopic screening for esophageal carcinoma in high-risk area in Hebei Province during 2005 and 2010 was performed.

Results: The incidence of SMPECs was 6.24% (188/3012) in patients with early esophageal and gastric cardia carcinomas and precancerous lesions. The detection rate of SMPECs in 2008–2010 was significantly higher than that in 2005–2007 (7.02% vs 5.09%, p < 0.05). In this study the distribution of SMPECs in male and female was 1.00% (113/11471) and 0.6% (73/12090), the difference had statistical significance (p < 0.01). Among 40 to 69 years group, the SMPECs with increasing trend, and the detection rate of aged under 55 and over 55 was 0.40% (61/15393) and 0.55% (127/18168) respectively. Additionally, with upper gastrointestinal carcinoma family history was a significant risk for SMPECs (OR = 3.84, 95% CI: 2.41–5.01, p = 0.00). The results indicate the occurrence of precancerous lesions at middle esophagus (64.9%, 122/188) and 12 to 3 o’clock position (85.6%, 161/188) in gastric cardia were more common. Esophageal mucosal congestion-roughness (61.1%, 113/185) and gastric cardia mucosal congestion-edema (73.7%, 132/179) were the most common endoscopic features of precancerous lesions of SMPECs. There were 178 cases low grade dysplasia in esophageal precancerous lesion of SMPECs, which was more common than that in gastric cardia (137 cases) (p = 0.00).

Conclusion: This study show that synchronous multiple primary early esophageal and gastric cardia carcinomas and precancerous lesions are not rare in high-risk areas. Male, aged over 55 and family history of upper gastrointestinal carcinoma does seem to increase the risk of SMPECs, they should be regarded as a high-risk groups during clinical examination and endoscopic screening. The endoscopic mucosal abnormality of precancerous lesion in esophagus and gastric cardia is slight and less visible, and the detection of low grade dysplasia in gastric cardia precancerous lesion of SMPECs needs to be improved.

Key Word(s): 1. Multiple primary; 2. Esophageal; 3. Gastric cardia; 4. Early carcinoma;

PR0189
Esophageal, Gastric and Duodenal Disorders
High expression of Grp78 promotes invasion and metastases in patients with esophageal squamous cell carcinoma
Presenting Author: DEXIN ZHANG
Additional Authors: GUOHONG ZHAO, JIANQIN KANG, GUOHUI XU, YONGZHAN NIE, KAICHUN WU, DAIMING FAN, HONGBO ZHANG
Corresponding Author: DEXIN ZHANG
Affiliations: Xijing Hospital, The Fourth Military Medical University

Objective: Esophageal squamous cell carcinoma (ESCC) has a poor prognosis due to its high frequency of metastasis and invasion. Recent
studies have suggested that Grp78 may play important roles in the progression and metastasis of malignant tumors. However, the mechanisms of invasion and metastasis of ESCC in relation to Grp78 still remain unknown. Keywords: ESCC, Grp78, invasion, metastasis. Methods: Grp78 expression levels in ESCC tissues were examined by immunohistochemistry. qRT-PCR and western blot were used to test the relative expression of GRP78 in non-metastatic cells and high-metastatic ESCC cells. In vitro and in vivo studies were both done to investigate the role of Grp78 in invasion and metastasis of ESCC cells. The metastasis related proteins were examined by western blot in Grp78-depleted cells. Results: The expression of Grp78 is correlated with invasion, metastasis and poor prognosis in ESCC patients. Grp78 expression was significantly higher in highly metastatic cells compared with squamous cell carcinoma non-metastatic cells. In addition, down-regulation of Grp78 by siRNA could significantly inhibit the metastatic potential of ESCC cells both in vitro and in vivo studies. The expression of MMP-2 and MMP-9 were down-regulated in Grp78-depleted ESCC cells. Conclusion: The present study demonstrated that Grp78 plays important roles in the invasion and metastasis of ESCC, indicating that Grp78 might be used as a potential prognostic and therapeutic marker in patients with ESCC by modulating the expression of MMP-2 and MMP-9.

Key Word(s): 1. ESCC; 2. Grp78; 3. Invasion; 4. Metastasis;

PR0191
Esophageal, Gastric and Duodenal Disorders
ZEB1-SIP1 3′UTRs regulates miR-200b dependent gastric cancer cell proliferation, invasion, and migration
Presenting Author: SULI LI
Additional Authors: QINGYU ZHANG
Corresponding Author: SULI LI
Affiliations: Tianjin Medical University General Hospital; TianJin Medical University General Hospital

Objective: The objective of this study is to clarify the role of ZEB1-SIP1 3′-UTR regulating EMT and promoting cellular proliferation, invasion, and migration through downregulation of miR-200b in gastric cancer.

Methods: Quantitative real-time PCR and western blot were performed to evaluate the expression levels of miR-200 family (including miR-200b, miR-200a, miR-429, miR-200c, miR-141), and E-cadherin, vimentin, ZEB1, ZEB2 mRNAs and the protein expression level of ZEB1, ZEB2, vimentin, and E-cadherin respectively after transfected with the ZEB1-SIP1 3′UTR in gastric cancer cell (MGC803, SGC-7901) and normal gastric Epithelial cell (GES-1). The luciferase activity was also analyzed in the cells transfected with sZEB2 and PGL3-ZEB1 or PGL3-SIP1. The effects of ZEB1-SIP1 3′UTR on EMT and tumor proliferation, migration, invasive ability in gastric cancer cells in vitro were also analyzed.

Results: SIP1 3′UTR overexpression induced the malignant phenotype of cells via induction of ZEB1, SIP1 expression, whereas knockdown of ZEB1, SIP1 reversed this phenotype. In addition, overexpressed SIP1 3′UTR increased cell growth, proliferation, invasion, and migration. Notably, the seed sequence of miR-200b matched the 3′UTR of SIP1, and the reintroduction of miR-200b abrogated the SIP1 3′UTR induced malignant phenotype. SIP1-3′UTR luciferase reporter assay confirmed that SIP1 was the direct target of miR-200b, and there is an extensive MicroRNA regulatory network, especially miR-200b-mediated network of RNA-RNA interactions regulates established EMT in gastric cancer. Conclusion: ZEB1-SIP1 3′UTR regulates EMT dependent on the miR-200b to a large extent in gastric cancer. Our study investigated the underlying mechanism in SIP1 3′UTR regulation of EMT in gastric carcinoma cells. This might offer a novel therapeutic strategy for human gastric cancer.

Key Word(s): 1. ZEB1-SIP1 3′UTRs; 2. gastric cancer cell; 3. miR-200b;
than those in the control group (97.32% VS 17.98%, P < 0.001). However, no statistical significance in the two group without anxiety and depression, severe anxiety and severe depression patients with different total curative effect (P > 0.05). Conclusion: Low dose of Fluoxetine and melitracen can effectively alleviate the symptoms of FD patients, significantly improve the without anxiety and depression, mild to moderate anxiety and depression in patients with psychological score.

Key Word(s): 1. functional dyspepsia; 2. deansit; 3. anxiety; 4. depression;

PR0193
Esophageal, Gastric and Duodenal Disorders
Clinical effect of rebamipide on chronic gastritis
Presenting Author: XUE HAN
Additional Authors: KUI JIANG, BANGMAO WANG, LU ZHOU, XIN CHEN, SHU LI
 Corresponding Author: KUI JIANG
Affiliations: General Hospital of Tianjin medical university

Objective: To investigate the clinical effect of rebamipide in chronic gastritis patients. Methods: 180 patients with chronic gastritis were randomly divided into the experimental group and the control group. The experimental group were treated with rebamipide 0.1 g tid and optimization of life style, and the control group were only optimized their life style for 26 weeks. Upper gastrointestinal endoscopy was performed in all patients to evaluate the severity of gastritis by modified Lanza score (MLS) and the histology by the updated Sydney system before and after treatment. Results: compare experimental group and control group in the differences of clinical symptoms, gastric mucosal lesions and inflammation grade scores between pre-treatment and post-treatment respectively (2.62 ± 1.86 vs. 1.55 ± 1.61, 0.57 ± 1.05 vs. 0.16 ± 0.90, 0.43 ± 0.96 vs. 0.01 ± 0.72), and the differences have statistical significance (P < 0.05).

Conclusion: Rebamipide can improve clinical symptoms, gastric mucosal lesions, and pathologic grade (inflammation) of chronic gastritis safely, and hence it is and worthy of applying in clinical practice.

Key Word(s): 1. Rebamipide; 2. chronic gastritis; 3. clinical effect; 4. modified Lanza score;

PR0194
Esophageal, Gastric and Duodenal Disorders
Detection of smad4 promoter methylation in esophageal cancer of Kazakh Chinese in Xinjiang province
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Additional Authors: GANGWEI CHEN, YONG ZHENG, JUNYONG LI, HUACUI QI, FANG LIU
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Objective: Detect the clinical expression of smad4 gene promoter in 33 cases of Kazakh esophageal squamous cell carcinoma and 38 cases of local normal esophageal tissue that selected from esophageal high incidence-Ili Kazak Autonomous Prefecture of Xinjiang. Results: ① The average methylation rate of smad4 gene promoter CpG units were 3.4% in Kazakh esophageal cancer and 2.5% in control groups, the difference was not statistically significant (P > 0.05). ② The average methylation rate of smad4 gene in Kazakh esophageal CpG units of CpG units 1, CpG units 16–17–18–19, CpG units 27–28, CpG units 31–32–33 were 1.6%, 4.3%, 4.8%, 6.8%, and the average methylation rate is significantly higher than the control group (0.7%, 2.2%, 3.0%, 5.5%), the difference was statistically significant (P < 0.05). Conclusion: From the above, our finding that smad4 gene promoter methylation in Kazakh esophageal cancer may support an association with cancer development, the change in status that smad4 gene promoter methylation in CpG Unit 1, CpG units 16–17–18–19, CpG units 27–28, CpG units 31–32–33 may connected with the development of Xinjiang Kazakh esophageal cancer.

Key Word(s): 1. Kazak; 2. esophageal cancer; 3. smad4 gene; 4. methylation;

PR0195
Esophageal, Gastric and Duodenal Disorders
Computational analysis of blood counts significantly increases detection rate of gastric and colorectal cancers
Presenting Author: VARDA SHALEV
Additional Authors: YARON KINAR, NIR KALKSTEIN, PINCHAS AKIVA, ELIZABETH FALK, INBAL GOLDShtein, GABRIEL CHODICK
 Corresponding Author: PINCHAS AKIVA
Affiliations: Medial-Research; Medial Research; Rambam Health Care Campus; Maccabi Health Care Services

Objective: Gastric and colorectal cancers account for over one quarter of the cancer incidence in East Asia. The compliance rates in screening programs for these cancers, where available, are sub-optimal, with the majority of cases not detected through screening. Here, we propose a method that could significantly increase the early detection rate of these...
digestive cancers based solely on computational analysis of widely available parameters such as age, gender, and complete blood counts (CBCs).

**Methods:** We devised a machine learning method for stratifying the probability of individuals having gastric or colorectal cancers using only age, gender, and CBC values (current and past tests). Specifically, the method was developed using data from 860,000 Israelis above 40 years of age and performance was assessed by cross validation. As external validation, we tested our model on an additional 180,000 primary care patients from the UK’s Health Information Network (THIN) database.

**Results:** We evaluated the performance of our method using the standard area under the receiver-operator curve (AUC), and obtained a value of 0.81 ± 0.01. The AUC’s for gastric and colorectal cancers are 0.80 ± 0.02 and 0.815 ± 0.01 respectively. Our method detects 50 ± 2% of the combined gastric and CRC cases when specificity is 90%. Strikingly, it achieves similar results when applied to the UK population (detecting 55 ± 2% of the cancer cases).

**Conclusion:** Compared to existing screening programs, our method allows us to examine a much larger proportion of the population (reaching 80% of the population in our study) and to potentially increase the number of gastric as well as colorectal cancers detected. The success of our method on two unrelated populations suggests that it should be applicable to other populations. Moreover, as our methodology is generic, it will be interesting to test its applicability to other cancer types.

**Key Words:** 1. Screening; 2. Endoscopy; 3. Early detection; 4. Cancer;

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**PR0196**

**Esophageal, Gastric and Duodenal Disorders**

**Detection smad4 promoter methylation in esophageal cancer of Kazakh and Han nationality in Xinjiang**

**Presenting Author:** GANWEI CHEN

**Additional Authors:** YONG ZHENG, RUI LI, XUE KANG, XINSHU TIAN, NING ZHANG, XUEKAI RUAN

**Corresponding Author:** GANWEI CHEN

**Affiliations:** Department of Gastroenterology, First Affiliated Hospital of the Medical College, Shihezi University, Shihezi, Xinjiang

**Objective:** Discuss the level of smad4 promoter methylation in esophageal squamous cell carcinoma of Kazakh and Han nationality in Xinjiang and the relationship between smad4 promoter methylation and esophageal squamous cell carcinoma. **Methods:** Collect 33 cases of Kazakh esophageal squamous cell carcinoma and 38 cases of local normal esophageal tissue, and 32 cases of Han nationality esophageal squamous cell carcinoma and 34 cases of local normal esophageal tissue, using MassARRAY methylation DNA quantitative analysis technology to detect the methylation status of smad4 gene promoter. **Results:** ① The average methylation rate of smad4 gene promoter CpG units were 3.44% in Kazakh esophageal cancer and 3.18% in control groups, the average methylation rate of smad4 gene promoter CpG units were 3.41% in Kazakh esophageal cancer and 2.51% in control groups, the difference was not statistically significant (P > 0.05). ② The average methylation rate of smad4 gene in Han nationality esophageal CpG units 15 (4.75%) is significantly higher than the control group (3.62%); The average methylation rate of smad4 gene in Kazakh esophageal CpG units 1, CpG units 16-19, units 27-28, units 31-33, 31-33 units 31-33 may be the reason that High incidence of Kazakh esophageal cancer. Smad4 gene promoter hypermethylation in CpG Unit 6, Unit 16–19, may the reason that High incidence of Kazakh esophageal cancer. Smad4 gene promoter hypermethylation in CpG Unit 6, Unit 16–19, may the reason that High incidence of Kazakh esophageal cancer.

**Key Words:** 1. Han nationality; 2. Kazak; 3. smad4 gene; 4. esophageal cancer;

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**PR0197**

**Esophageal, Gastric and Duodenal Disorders**

**The mechanism investigation of angiogenesis inhibition of GEBP11 (CTKNSYLMC)**

**Presenting Author:** YANXIANG LV

**Additional Authors:** SHUHUI LIANG, QIN ZHANG, QUANXIN FENG, SHUJUN LI, KAICHUN WU, JIE DING

**Corresponding Author:** SHUHUI LIANG, JIE DING

**Objective:** To investigate the mechanisms of angiogenesis inhibition of GEBP11 in gastric cancer. **Methods:** The cellular mechanisms of angiogenesis inhibition of GEBP11 were clarified by proliferation assay, cellular cycle and apoptosis analysis, invasion and migration assay and adherence assay. The differential expression genes in Co-HUVEC treated by GEBP11 or not were screened by microarray to explore the molecular mechanisms, and verified by RT-PCR and Western blot. **Results:**

1. Proliferation assay, cellular cycle and apoptosis analysis, invasion and migration assay and adherence assay showed that GEBP11 could inhibit the proliferation of Co-HUVECs and HUVECs, induce the apoptosis of ECs, but not alter the cell cycle of ECs. Additionally, GEBP11 appeared to inhibit the ECM degradation, migration and adhere of ECs.
2. Microarray revealed that there were 1202 down-regulated genes and 2104 up-regulated genes in Co-HUVECs treated by GEBP11. And there were 579 down-regulated genes and 194 up-regulated genes in Co-HUVECs vs. HUVECs. Some expression changes which induced by co-culture were reversed after peptide treatment. For example, the expression of MMP1, CDH11, TNFSF18, VCAM1 was up-regulated 5, 2.5, 2, 4 times respectively by co-culture, and then down-regulated 32, 21, 16, 4 times respectively after peptide treatment.

3. RT-PCR showed that the expression of MMPs, CXCR4, CAMs, IL18, KDR were down-regulated in Co-HUVECs treated by GEBP11 on transcriptional level.

4. The expression of MMPs, KDR, Bcl-2/Bax were down-regulated on protein level which was confirmed by western-blot.

**Conclusion:** GEBP11 may come true its inhibition effects on the proliferation, invasion, migration and adherence of ECs and induce apoptosis by down-regulate the expression of MMPs, CAMs, KDR, Bcl-2/Bax, and realize its angiogenesis inhibition function finally.

**Key Words:** 1. Gastric cancer; 2. Angiogenesis; 3. GEBP11; 4. Mechanism;

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**PR0198 Esophageal, Gastric and Duodenal Disorders**

**the correlation between refractory FD and personality traits, vagal tone**

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**Additional Authors:** LIU XIN, WEI YAN

**Corresponding Author:** ZHANG JUN

**Affiliations:** Xi’an Jiaotong University; Xi’an Jiaotong University

**Objective:** The study aimed to investigate the relationship between personality traits, vagal tone (VT) and refractory FD. **Methods:** Twenty refractory FD patients with high levels of emotional distress who have failed to all motility-type agents or other gastrointestinal treatments were as FD group. Twenty healthy people were chosen as control. Personality traits and VT were observed for every people. Eysenck Personality Questionnaire (EPQ) was used to assess the personality of neuroticism (N), psychoticism (P), extroversion (E), phlegmatic temperament, sanguine temperament, choleric temperament and melancholic temperament. HF and RMSSD as the indices of HRV were measured by 24 h Holter, which temporament, choleric temperament and melancholic temperament. HF and RMSSD as the indices of HRV were measured by 24 h Holter, which were respectively.

**Results:** (1) The value of HF and RMSSD were significantly lower in FD group than healthy group (P < 0.05); (2) The scores of N in FD group were higher than those of healthy group (P < 0.05); But the scores of E in FD group was lower (P < 0.05); (3) The declining HF was related to neuroticism (N) in two groups (P < 0.05), which no relationship with psychoticism (P) and extraversion (E) (P > 0.05); Interestingly, the patients with melancholic temperament have lower HF than other traits in healthy group (p < 0.05). **Conclusion:** The study found that the refractory FD patients have personality tendency of neuroticism, introversion, psychoticism, and low VT. In the healthy group, the personality of melancholic temperament (low scores of E and high scores of N) also has appeared low HF, and low HF was related to high N. These results show melancholic temperament has tendency of vagus nerve dysfunction, and this trait may be more easily to suffer from refractory FD. Therefore, refractory FD may be based on personality traits, especially melancholic temperament.

**Key Word(s):** 1. Refractory FD; 2. Personality Traits; 3. Vagal Tone;

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**PR0199 Esophageal, Gastric and Duodenal Disorders**

**Clinical and endoscopic characteristics of 11 adult Henoch-Schonlein Purpura with gastrointestinal involvement**

**Presenting Author:** XINGYU LIU

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**Affiliations:** Chinese PLA General Hospital; Chinese PLA General Hospital

**Objective:** To analyze the clinical and endoscopic characteristics, and treatment methods of 11 adult Henoch-Schonlein Purpura (HSP) with gastrointestinal involvement so as to improve the early diagnosis and treatment of this disorder. **Methods:** A retrospective study in 11 adult HSP patients with gastrointestinal involvement enrolled from 2008 to 2012 at Chinese PLA General Hospital was conducted. **Results:** The 11 adult HSP patients with gastrointestinal involvement enrolled in this study were mainly youth, and 5 patients (45.4%) have obvious inducing causes. All the patients had cutaneous purpura and abdominal pain, and the severity of abdominal pain was not concordant with physical signs. Abdominal pain occurred prior to cutaneous purpura in 7 patients (63.6%), and 8 patients (72.7%) had gastrointestinal bleeding. Endoscopically, gastrointestinal lesions involved mainly duodenum, the finding included hyperemia, edema, erosion and ulcer. Glucocorticoids were administered in 8 patients (72.7%) and relief of abdominal pain and gastrointestinal bleeding was obtained. **Conclusion:** The adult HSP with gastrointestinal involvement is a disease of variable manifestations and prone to be misdiagnosed. Familiar with the clinical and endoscopic characteristics is essential for early diagnosis of the adult HSP. Steroids are effective for relief of abdominal symptoms.

**Key Word(s):** 1. Henoch-Schonlein; 2. Adult; 3. Abdominal Pain; 4. Hemorrhage;

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**PR0200 Esophageal, Gastric and Duodenal Disorders**

**Detection of p16 promoter methylation in esophageal cancer of Kazakh Chinese in Xinjiang**

**Presenting Author:** GANGWEI CHEN

**Additional Authors:** MEICHUN YANG, YANXIAO LIU, CHENGUO SHANG, QIUYAN XU, YONG ZHENG

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**Affiliations:** Department of Gastroenterology, First Affiliated Hospital of the Medical College, Shihezi University, Shihezi, Xinjiang.

**Objective:** Aberrant p16 methylation is very common in esophageal cancer (EC) and may serve as an early biomarker. Our aim was to determine the relationship between methylation of the p16 promoter and the incidence of esophageal cancer in Kazakh Chinese in the Xinjiang autonomous region of China. **Methods:** Thirty patients with esophageal cancer and 60 normal individuals were recruited from Kazak Autonomous Prefecture, an area with a high prevalence of esophageal cancer. We used MALDI-TOF to detect p16 promoter methylation in esophageal squamous cell carcinoma (ESCC) tissues from EC patients, as well as in tissues from healthy controls. **Results:** We found significant differences in the mean of CpG methylation rates in EC and normal esophageal (43.04% and 0.815%, respectively; P < 0.05). In EC patients, the mean methylation rates of CpG 11–12 and CpG 33–34–35 were 3.07% and 0.61%, respectively.
which was markedly higher than rates in normal esophageal tissues (33.33% and 0.13%, respectively; P < 0.05). Conclusion: The p16 promoter methylation status is correlated with the presence of EC in Kazakh Chinese. Changes in the methylation of CpG 11–12 and/or CpG 33–34–35 of the p16 gene may lead to the development of EC.

Key Word(s): 1. esophageal cancer; 2. p16 gene; 3. methylation; 4. Kazakh Chinese;

**PR0201**

**Esophageal, Gastric and Duodenal Disorders**

The expression of YY1 mRNA in esophageal cancer patients in Xinjiang Kazak

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**Objective:** To investigate the expression and significance of transcription factor YY1 in tissue and peripheral blood of patients with esophageal squamous cell carcinoma in Xinjiang Kazak.  

**Methods:** The expression of YY1 genes were detected in 40 cases of esophageal cancer and non-esophageal cancer tissues and peripheral blood by reverse transcription polymerase chain reaction (RT-PCR).  

**Results:** The expression of YY1 mRNA was found positive in 2 cases among 40 cases of non-esophageal cancer tissues (positive rate 5%); The expression of YY1 mRNA was found positive in 1 cases among 40 peripheral blood cases of non-esophageal cancer (positive rate 2.5%). The YY1 mRNA positive rate of 40 tissues with esophageal squamous cell carcinoma was 50% (20/40). The YY1 mRNA positive rate of 40 patients with esophageal squamous cell carcinoma in peripheral blood was 47.5% (19/40). With the increasing degree of malignancy and disease progression, the positive rate rised gradually (P < 0.05). Conclusion: The specific high expression of YY1 mRNA both in tissue and peripheral blood of patients with esophageal squamous cell carcinoma in Xinjiang Kazak. Which is closely relate to the incidence, development of esophageal cancer. YY1 mRNA is a good marker for micro-metastasis of esophageal cancer. It is expected to become a molecular markers of the census and screening with esophageal cancer in a high incidence.

**Key Word(s):** 1. YY1 mRNA; 2. Kazakh; 3. micrometastases; 4. RT-PCR;

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**Figure 1.** DNA electrophoresis

**Figure 2.** PCR of β-actin. Note: M: Marker1, molecular weight: ~700 bp; amplified β-actin: 268 bp; 1,3: positive; 2, negative

**PR0202**

**Esophageal, Gastric and Duodenal Disorders**

Duodenal diverticuli: are they associated with biliary pathology?

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**Affiliations:** MBBS; MBBS, MS, MRCS. MPhil; MBBS, MS, MRCP

**Objective:** Duodenal diverticuli are commonly found in the 2nd part of duodenum and majority are Juxta-papillary duodenal diverticuli (JDPP) which are diverticuli located within a radius of 2 cm from the ampulla. These JDPP are implicated in biliary stone formation. This study analyses prevalence and disease pattern of JDPP in the Sri Lankan population.  

**Methods:** 640 consecutive patients who underwent ERCP at the National Hospital Sri Lanka from January 2011 to April 2013 were included in this study. The demographic data of individual with duodenal diverticuli, the types of JDPP, its association with billiary stones and other pancreatobiliary disease were analysed.  

**Results:** 64 (10%) out of 640 patient had duodenal diverticuli (DD). The median age of presentation was 61 years (14–86) with female predominance [64% (n = 41)]. 91% (58) of DD were JDPP (8/58 were type 1, 16/58 were type 2 and 34/58 were type 3). Majority (63%) of the DD were associated with biliary stones and overall dilatation of the CBD was seen in 70% of the cases. 5 individuals had dilated CBD caused by the diverticula itself without obstruction from stones. When comparing data between the group with JPDD and without JPDD there was significant association between gender [female predominance (p = 0.002)], age [more in elderly population (p < 0.001) and biliary stone formation (p < 0.001)]. Conclusion: 10% of patients undergoing ERCP have duodenal diverticuli and there is significant association between JPDD and biliary stone formation.

**Key Word(s):** 1. diverticuli; 2. biliary stones; 3. common bile duct; 4. ERCP;
PR0203
Esophageal, Gastric and Duodenal Disorders
Regulation of apoptosis and autophagy by GRP78 in ESCC after chemotherapeutic drug treatment
Presenting Author: DEXIN ZHANG
Additional Authors: GUOHONG ZHAO, JIANQIN KANG, LEI YANG, KAICHUN WU, YONGZHAN NIE, DAIMING FAN, HONGBO ZHANG
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Objective: GRP78 (glucose-regulated protein 78 KD) is involved in proliferation, metastasis, drug resistance and prognosis of many tumors. However, little is known about the role of GRP78 in esophageal squamous cell carcinoma (ESCC). In this study, we investigated whether GRP78 plays a role in apoptosis and autophagy, and mediates drug resistance in ESCC cells. Methods: The expression of proteins was examined by Western blot. Cell proliferation was analysed by MTT assay. Apoptosis of ESCC cells were examined by annexin V-propidium iodide, Hoechst 33258 staining and FACS. Autophagic activity was detected by immunofluorescence staining of autophagosomes formation using anti-microtubule-associated protein-1 light chain-3 (LC3) antibodies. Results: Rapamycin (RAPA) and cisplatin (CDDP) were found to induce GRP78 expression in ESCC cells. The apoptotic effect of both drugs was significantly enhanced upon GRP78 downregulation and was inhibited upon GRP78 overexpression. Knockdown of GRP78 in RAPA- and CDDP-exposed ESCC cells resulted in downregulation of autophagic activity, and accordingly, autophagic activity was enhanced upon GRP78 overexpression. Further investigations showed that GRP78-induced apoptosis and autophagy were down-regulating apoptosis and up-regulating autophagy-related proteins. Beclin-1 and LC3. Conclusion: Our findings suggest that GRP78 protects ESCC cancer cells from chemotherapeutic drug-induced death by down-regulating apoptosis and up-regulating autophagy-related proteins and might represent a novel therapeutic target for ESCC chemotherapy. Key Words: 1. ESCC; 2. GRP78; 3. apoptosis; 4. autophagy;

PR0204
Esophageal, Gastric and Duodenal Disorders
Two case of treatment of esophageal cancer
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Objective: In 2000, there was admitted in cancer clinic in Ulaanbaatar two patients (first 68 years old, women; second 67 years old women) with dysphagia. They had esophageal carcinoma, III and IV stage. Diagnose was confirmed by endoscopy and histology. Methods: Initial treatment was esophageal radiation therapy. After that immediately, there was used Gan Fu Le 5 tab, TID (15 tab per day). During 40 days, 3 course in interval 30 days. After that, this course treatment in every 3 months there was repeated. Another treatment for esophageal cancer not used (Gan Fu Le 0.5 g, tablet, produced by China Materia Medica group and Huahe Pharmacy Lengshuijiang Pharmaceutical Co., LTD, Hunan, China). Results: After use this drug, the swallowing rapidly improved. First patient died after 3 years of treatment, from pneumonia. Second patient is alive now without any swallowing problem in during 12 years. Conclusion: On the basis of these observation, there are suggested that in pts with advanced esophageal cancer, after irradiation therapy as alternative treatment may use GFL tab, in long time with enough high dosage. Key Words: 1. esophageal carcinoma; 2. treatment; 3. Gan Fu Le;

PR0205
Esophageal, Gastric and Duodenal Disorders
Etiology, endoscopic and histological features of esophageal ulcers: An 8-year experience from a single center
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Objective: Esophageal ulcers are a rare intractable disease of the digestive system. The aim of this study was to describe the etiology, endoscopic and histological features of benign esophageal ulcers. Methods: In this study, a total of 338 patients with esophageal ulcer were analyzed, which excluded the esophageal ulcers after sclerotherapy and those associated with esophageal malignancy. The clinical data include all medical esophagogastroduodenoscopies recorded at a single medical center from March 2003 to March 2011. Results: Of the 338 patients, 209 were men (61.8%) and 129 were women (38.2%) with a mean age of 58.2 years. The etiology of esophageal ulcers include the following: gastrointestinal reflux disease (GERD) (59.5%), hiatus hernia, drug induced, candidal, marginal ulcer, caustic injury, multiple myeloma (MM), foreign body, Cronh’s disease and unknown etiology. The size of esophageal ulcers was 0.3 cm to 5 cm, and most of them were located in the lower thoracic esophagus (62.1%). The complications include hemorrhage, perforation, stricture and scar. Out of the 338 cases, 235 cases (69.5%) of esophageal biopsies were reviewed. Many of them were simple chronic inflammation (48%), chronic inflammation associated with tissue necrosis and atypical hyperplasia. Conclusion: The etiology of esophageal ulcer is very complex. GERD is the most common causes of esophageal ulcers. Endoscopic and Histological features might be useful for dissection of etiology. Key Words: 1. esophageal ulcers; 2. etiology; 3. endoscopic features;

PR0206
Esophageal, Gastric and Duodenal Disorders
Distinct characteristics of typical esophageal symptoms and extra-esophageal symptoms in patients with GERD
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Affiliations: The Third Affiliated Hospital of Sun Yat-Sen University; Tongji Hospital Affiliated To Tongji University; Tongji Hospital affiliated to Tongji University

Objective: To analyze the reflux characteristics of Gastroesophageal reflux disease (GERD) patients with typical esophageal symptoms and extra-esophageal symptoms, and to explore the possible mechanism in pathogenesis of GERD symptoms. Methods: Fifty-seven GERD patients and twenty-three healthy subjects (HS) as control group were enrolled in this study. The patients were divided into the following two groups according to different symptoms: group of esophageal symptoms (ES group, n = 19) and group of extra-esophageal symptoms (EES group, n = 38). The healthy subjects were control group (n = 23). All patients underwent 24 h impedance-pH monitoring and esophageal manometry. Results: The distal acid reflux of esophagus in patients with EES significantly decreased...
compared with ES group (P < 0.05). The percentage of synchronous contraction and esophageal peristalsis in EES group was significantly different from HS (P < 0.05), but there was no difference between ES group and the HS group (P > 0.05). Conclusion: Compared with typical GERD symptoms such as heartburn and reflux, typical symptoms of respiratory system such as hoarseness, cough and dyspnea had differences in acid reflux and esophageal motility. Our results suggest that GERD with varies symptoms may have different pathogenesis mechanisms.

Key Word(s): 1. GERD; 2. esophageal symptoms; 3. 24 h pH monitoring;

PR0207
Esophageal, Gastric and Duodenal Disorders
The clinical features of primary adenocarcinoma of the third portion of duodenum: Analysis of 16 cases
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Objective: Primary adenocarcinoma of the third portion of duodenum (PATD) is a rare small intestinal neoplasm. Its natural history is poorly understood and misdiagnosis is common. Methods: 16 cases with PATD were reviewed to improve understanding of its clinical feature. Results: The most common symptoms of PATD were upper abdominal pain, vomiting and distention. On average, the disease had progressed 12 months (including 5 months of diagnostic workup) before the diagnosis was established. Patients with poorly differentiated PATD had shorter disease duration (6.5 vs 16.6 months, P = 0.56) and lower chance of cancer-directed surgery (12.5% vs 75%, P = 0.04) than those with well differentiated PATD. The diagnostic sensitivity was 78.6% (11/14) for CT scan and 28.6% (2/7) for upper gastrointestinal flow study. The barium study misdiagnosed three cases as superior mesenteric artery syndrome. Conclusion: Clinicians should bear PATD in mind when manage patients who present with upper abdominal symptoms and negative gastroendoscopy and barium study. CT scan plays a pivotal role in diagnosing PATD. Timely diagnosis can improve the outcome, particularly for those with poorly differentiated PATD.

Key Word(s): 1. Duodenal tumor; 2. SMA syndrome; 3. Computed tomography; 4. Upper GI flow study;

PR0209
Functional Gastrointestinal Disorders (FD/IBS/etc.)
FD of children relative with restless sleep via ‘Gut-Brain’ Axis
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Objective: Background: FD are commonly seen in children and infants, which are mostly observed in small sized hospitals serving local communities. Only after a long-term observation on the individuals, can we complete the discussion whether it is relative with sleep, emotion, consciousness. This is the first article in a series of promising Chinese traditional medicine applications. Objective: To investigate the probability of tossing and turning during sleep in children with FD. Methods: By defining a set of diagnostic criteria of tossing and turning during sleep, compared 50 children with FD and 50 normal children. Results: Incidence rate of tossing and turning during sleep in the experiment group and control group is 72.00% and 34.00% respectively, which indicates a statistically significant difference (p < 0.01). Conclusion: FD in children especially infants are usually caused by improper feeding and food ingestion, which further result in or aggravates the sleep disorder and other two issues consciousness and attention via ‘Gut-Brain’ Axis. These issues in turn interfere with the healthy development of core consciousness and extended consciousness. FD on individual probably turn out in different age, and recurrent of FD and unstable ‘Gut-Brain’ will impair the learning ability beyond school years. In the interaction between gut and brain in adult brain takes a more dominant role, whereas in infants and children often gut is dominating brain. Therefore, in the early development stage, a good gastrointestinal system is more important than a good brain.

Key Word(s): 1. Children; 2. Functional Dyspepsia; 3. tossing and turning; 4. restless sleep;

PR0210
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Analysis to mental health in irritable bowel syndrome patients
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Objective: To study the relationship between irritable bowel syndrome (IBS) and mental health. Methods: Selected cases were based on Rome III IBS criteria, all patients with disease duration of more than six months. The investigation group selected 65 cases of IBS from department of Gastroenterology in May to December 2012: 33 males and 38 females, aged 35.6 ± 19.0 years, including 41 cases of diarrhea-predominant, 11 cases of constipation, 13 cases of mixed. The control group of 60 healthy cases were from the region in the same period: 28 males, 32 females, aged 34.2 ± 14.2 years. The age, gender, education level in two groups were matched (p > 0.05). All cases were tested blood count, erythrocyte sedimentation rate, blood chemistry, stool routine, abdominal B ultrasound, barium meal or colonoscopy examination, exclusion of organic disease, and no significant neurological history of mental illness and drug abuse history, willing to accept psychological testing. 65 patients with IBS and 60 healthy controls were carried out Self-Rating Depression Scale (SDS), Self-Rating Anxiety, scale (SAS). Results: Most IBS patients suffered from psychological disorders. SDS, SAS scores in IBS patients were significantly higher (P < 0.05). The IBS cases somatization, obsessive-compulsive symptoms, depression, anxiety, paranoid ideation integral and total scores were higher than the healthy control group. The difference between the groups was statistically significant (P < 0.05), and the other factor score was no significant difference. Conclusion: There is a certain degree of abnormal psychology in those IBS patients, so, psychological factors play an important role in the pathogenesis of IBS process. Severe anxiety, depression also indicates a poor prognosis and poor response to treatment in patients with IBS.

Key Word(s): 1. IBS; 2. SAS; 3. SDS;
PR0211
Functional Gastrointestinal Disorders (FD/IBS/etc.)
A school-based study on the prevalence of functional gastrointestinal disorders in Chinese students
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Objective: Functional gastrointestinal disorders, including functional dyspepsia, irritable bowel syndrome and functional constipation are very common worldwide. This research aims to estimate the prevalence and associated factors involved in functional gastrointestinal disorders in Chinese college and university students using the Rome III criteria.

Methods: A total of 5000 students from Shandong University in China were asked in January-May 2012 to complete questionnaire, including the Rome III questionnaire, hospital anxiety and depression scale, and negative life events scale. Results: Based on the 4638 students who completed the questionnaire, the prevalence of functional dyspepsia, irritable bowel syndrome and functional constipation in college and university students of North China worked out to be 9.25%, 8.34% and 5.45% respectively. They were more frequent in female students. The factors of anxiety (OR 1.07; 95% CI 0.99 to 1.16, P = 0.002) and depression (OR 0.55; 95% CI 0.15 to 1.05, P = 0.045) indicated a high risk of causing irritable bowel syndrome.

Conclusion: Functional dyspepsia, irritable bowel syndrome and functional constipation were common in college and university students of North China. Psychological disorders such as anxiety and depression provide significant risk factors for irritable bowel syndrome patients.

Key Word(s): 1. functional dyspepsia; 2. prevalence;

PR0212
Functional Gastrointestinal Disorders (FD/IBS/etc.)
A clinical comparative study of Deanxit in treatment of functional dyspepsia
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Objective: To evaluate the effects of various treatment on patients with functional dyspepsia (FD). Methods: 112 gastroenterology outpatients with FD, from March 2010 to June 2012, which were poor effect by conventional treatment of functional dyspepsia (FD) were randomly divided into 3 groups: A-group (n = 39), which received Deanxit, B-group (n = 32), control group, which was given conventional therapy (PPI or H2 receptor antagonists and the gastrointestinal motility drugs), C-group (n = 41), which was given Deanxit joint conventional treatment. The total course of was 8 weeks. Patients of 3 groups before and after treatment were detected Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS), FD symptom score (FDSR), stomach accommodate test.

Results: After treatment, the scores of SAS and SDS and the clinical symptom score dramatically decreased, and gastric accommodation improved gradually in treatment groups (group A and C). It shows significant difference (p < 0.01). Compared to the treatment group (group A and C) and the control group (B group) shows significant differences (p < 0.01). No significant side effects. Conclusion: To treat of FD, combined Deanxit with conventional medicine is the finest plan, with fast, save and efficacy.

Key Word(s): 1. Deanxit; 2. Functional dyspepsia; 3. Therapeutic effect;

PR0213
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Analysis of psychometric test in 318 cases of functional gastrointestinal disorders
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Objective: To explore the psychological effect in patients with functional gastrointestinal disorders (FGIDs). Methods: Subjects with ZUNG Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) were evaluated in 318 cases of FGIDs, who were treated in the Department of Gastroenterology, Affiliated Hospital of Hainan Medical College from December 2010 to December 2012, and 25 normal controls in this hospital at the same period. Results: There were 223 cases with SAS or SDS score ≥50 in 318 FGIDs (70.4%). The difference of Anxiety Scale and Depression Scale between disease groups and the normal controls group had statistical significance (P < 0.05), but among disease groups, it had no statistical significance (P > 0.05). Conclusion: Patients with FGIDs are accompanied with depression and anxiety psychological obstacle, and doctors should fuse on it.

Key Word(s): 1. FGIDs; 2. anxiety; 3. depression; 4. psychological test;

PR0214
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Efficacy of dialectical behavioral therapy on sleep problems of IBS patient
Presenting Author: SAYED ABBAS- HAGHAYEGH
Additional Authors: PEIMAN- ADIBI
Corresponding Author: PEIMAN- ADIBI

Objective: Sleep Disorders are one of most common of comorbid problem in irritable bowel syndrome (IBS) patients. The purpose of this research, was the determine the efficacy of Dialectical Behavioral Group Therapy on sleep problems (early, maintain and wake-up) of IBS patients. Methods: Therefore, 52 IBS patients who received this diagnosis, according the Rome II criteria, were selected and assigned to two experimental and control groups with 26 IBS patients in each group-according to Mooshine s manual-. The experimental group received 8 weekly sessions in the clinic of gastroenterology in in Isfahan. The questionnaire of sleep problems was used as the pretest, post-test, follow-up). Results: Results of multi analysis of variance (MANOVA) showed that there is significant difference the mean post-test scores of beginning of sleep problems between two groups. There was also significant difference in beginning of sleep problems and wake-up in follow-up. (p < 0.005). There was no significant difference in mean score of maintain sleep. Conclusion: Findings support rather the efficacy of Dialectical Behavioral Group Therapy in improvement of sleep problems IBS patients.

Key Word(s): 1. IBS; 2. DBT; 3. sleep problems;
PR0215
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Clinical study of deanxit combined with PPI in the treatment of NERD with anxiety and depression
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Affiliations: no

Objective: To investigate the therapeutic effects of deanxit combined with proton pump inhibitors in treating non-erosive gastroesophageal reflux disease (NERD) with anxiety and depression. Methods: Totally 54 NERD patients were diagnosed with NERD accompanied with mild anxiety and/or depression according to HAD score, HAMA score, and HAMD score. They were randomly divided into two groups: 18 patients in Group A (proton pump inhibitor group) and 36 patients in Group B (deanxit combined with proton pump inhibitor group). Patients in Group A were treated with Esomeprazole 20 mg twice daily for 8 weeks, while those in Group B were treated with Esomeprazole 20 mg and deanxit 10 mg twice daily for 8 weeks. GERDQ score, HAD score, HAMA score, and HAMD score were evaluated before and 1, 2, 4, 8 weeks after the treatment. Results: The NERD related symptoms relief rates after 8 weeks were significantly higher in group B (88.24%/36) than in group A (50.67%/18), (P < 0.05). Before the treatment, there was no statistical difference in the GERDQ score, HAD score, HAMA score, and HAMD score between two groups (P > 0.05). There was statistical difference in the GERDQ score, HAD score, HAMA score, and HAMD score between the two groups after 1, 2, 4, 8 weeks treatment (P < 0.05). The effects on improving NERD related symptoms and agrypnia problems were much better in Group B (P < 0.05). Conclusion: Deanxit combined with proton pump inhibitors could effectively treat NERD patients accompanied with anxiety and/or depression. Deanxit is useful for treatment of NERD patients accompanied with mild anxiety and/or depression. Key Word(s): 1. NERD; 2. DEPRESSION; 3. ANXIETY; 4. DEANXIT;

PR0216
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Up-regulation of SERT by EGF via EGFR contributes to the formation of visceral hypersensitivity
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Objective: Serotonin transporter (SERT) in the colon tissues of the patients with diarrhea-predominant irritable bowel syndrome (D-IBS) was down-regulated. The mechanisms underlying are not fully understood. It was reported that epidermal growth factor (EGF) via EGFR receptor (EGFR) regulated the expression of SERT in gut. The present study was designed to investigate the role of the modulation of SERT gene expression by EGF in visceral hypersensitivity, and to delineate the mechanisms involved. Methods: Rat models of visceral hypersensitivity were established by intra-colonic infusion of acetic acid in 10-day-old Sprague-Dawley rats. Abdominal withdrawal reflex (AWR) and electromyography (EMG) were used for assessing visceral sensitivity. The levels of EGF in plasma and intestinal tissues were measured by enzyme-linked immunosorbent assay (ELISA). The study was performed to examine the regulation of SERT by EGF using rat intestinal epithelial cell -6 (IEC-6) cells. EGFR kinase inhibitor PD153035 was used in this study. The expression of SERT was detected by Real-time PCR and western blot. Results: The model rats with chronic visceral hypersensitivity showed lower levels of EGF in plasma and colon tissue. Treatment with EGF significantly increased the expression of SERT in IEC-6 cells compared with control in dose-dependent and time-dependent manner. Inhibition of EGFR tyrosine kinase activity by PD153035 blocked the stimulatory effects of EGF on SERT expression. Conclusion: These findings suggest that transcriptional regulation of SERT by EGF via EGFR may contribute to the formation of visceral hypersensitivity. Key Word(s): 1. SERT; 2. EGF; 3. Hyperalgesia; 4. Rat models.;

PR0217
Functional Gastrointestinal Disorders (FD/IBS/etc.)
The role of IL-4 and IL-13 in the damage of ICC in chronic and comprehensive stress model rats
Presenting Author: QIN DENG
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Objective: To observe the expression of IL-4 and IL-13 in model rats treated with chronic and comprehensive stress and explore their role in the damage of interstitial cells of Cajal. Methods: Twenty male SD rats were randomly divided into 2 groups: the model group (n = 10) and the control group (n = 10). Rats in the model group were treated with chronic and comprehensive stress. Open-field test was used to confirm the accomplishment of modeling. The serum concentration of IL-4 and IL-13 were determined by ELISA and the expression of TMEM16A in the myenteric plexus was observed under the fluorescence microscope. Compared with the control group, the expression of TMEM16A in the myenteric plexus were decreased in all sections of the intestine. Conclusion: In model rats treated with chronic and comprehensive stress, the expression of Th2-related cytokines (IL-4 and IL-13) were increased, and it might result in the damage of interstitial cells of Cajal by affecting the expression of TMEM16A through the JAK/STAT pathway. Key Word(s): 1. IL-4; 2. IL-13; 3. TMEM16A; 4. ICC;

PR0218
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Life events and social support of patients with irritable bowel syndrome
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Objective: To evaluate the relationship of the irritable bowel syndrome (IBS) with life events and social support. Methods: The life event scale (LES) and social support rating scale (SSRS) were applied for
investigating eighty-three patients with IBS and seventy-six healthy control respondents. Results: The score of negative life events was higher in the IBS group than the control group (21.2 ± 17.4 vs. 9.5 ± 11.0, P < 0.05). The score of positive life events and total stress in the IBS group was not significantly different from the control group (P > 0.05). Compared with controls, the social support offered to IBS patients was lower (37.6 ± 7.2 vs. 43.9 ± 4.8, P < 0.05) and IBS patients utilization of social support was also lower (5.6 ± 3.2 vs. 8.2 ± 2.7, P < 0.05). Conclusion: IBS patients experienced a higher level of negative life events and acquired a lower level of social support compared with healthy control respondents.

Key Word(s): 1. IBS; 2. life event; 3. social support;

PR0219
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Epidemiology of postinfectious irritable bowel syndrome in a megapolis
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Affiliations: SPSMU n.a. I.P. Pavlov; Medical Military Academy named after S.M. Kirov

Objective: To study frequency of postinfectious irritable bowel syn- drome (PI-IBS) in the citizens of a megapolis by the example of Saint-Petersburg (Russian Federation) past acute intestine infections. Methods: Randomly chosen representatives of the working population of Saint-Petersburg were checked for signs of irritable bowel syndrome. The 247 people (152 males and 95 females) at age of 20-69 with acute intestine infections in the anamnesis during last 6 months were included into the research. The acute intestine infections were salmonellosis (49 cases), acute dysentery (65), acute gastroenteritis (51), enterococcosis (25) and acute gastroenterocolitis (57) viral etiology. The irritable bowel syndrome was diagnosed and verified according to the Roman criteria III (2006) by endoscopic and morphological examination. Biopsies were obtained from the intestine at endoscopic examination. Biopsies were placed in 10%
formalin and routinely embedded in paraffin blocks, then cut and stained in each local canter. The stained slides were examined by pathologist using the updated classification. The Chromogranin, Synaptophysin, NSE were determined by immunohistochemical methods for neuroendocrine tumors exclusion. Results: 61 persons, i.e. 24.7% of the research participants, were diagnosed with postinfectious irritable bowel syndrome after one of acute intestine infections. The patients age was 20–47 years, middle age – 30, 2 years, 27 males and 34 females. These patients had the clinical picture of irritable bowel syndrome. The clinical picture of IBS-likely condition was characterized presence of pain or discomfort in the abdomen at all patients; stool disorders – at 55 persons: diarrhea was observed at 23 patients, constipation – at 25 patients, unstable stool – at 7 patients; sensation of incomplete emptying intestine and meteorism was observed 44 and 29 patients accordingly. In the anamnesis the 24.6% examined (15 patients) had salmonellosis, 44.3% (27 patients) – acute dysentery, 6.6% (4 patients) – acute gastroenteritis, 9.8% (6 patients) – acute enterococcosis, 14.8% (9 patients) – acute gastroenterocolitis. Conclusion: The problem of postinfectious irritable bowel syndrome is actual. After acute intestine infections IBS-likely symptoms prevalence among the working citizens of Saint-Petersburg are high. This peculiarity dictates necessity of careful inspection this category of patients, formations of interaction of the infectionist and gastroenterologist.

Key Word(s): 1. EPIDEMIOLOGY; 2. POSTINFECTIONOUS IBS; 3. intestine infections; 4. RESEARCH;

PR0220
Functional Gastrointestinal Disorders (FD/IBS/etc.)
Gastroesophageal reflux disease and tooth erosion: SEPAHAN systematic review
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Additional Authors: SABER KHAZAEI, PARASTOO AFGHARI, AWAT FEIZ, OMID SAVABI, AMMAR HASSANZADEH KESHTELI, PEYMAN ADIBI
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Objective: Many systemic diseases affect oral health. The aim of this research was to conduct a systematic review on the association between dental erosion (DE) and gastroesophageal reflux disease (GERD) and the effect of saliva’s flow rate, buffering capacity and oral microbial changes caused by GERD. Methods: All descriptive, analytical studies up to December 2011 that have relevant objectives, proper sampling method and sufficient results were included by searching PubMed and Scopus electronic data bases. Results: Fifteen studies were selected according to our inclusion criteria (10 in adult and 5 in children population). There was a strong association between DE and GERD in the adult population, and the relationship in the children population was found to be of less importance. Conclusion: Early diagnosis and treatment of refluexed acid in both age groups through lifestyle changes and medications an prevent further damage and tooth loss

Key Word(s): 1. Dental Erosion; 2. GERD; 3. saliva; 4. systemic review;

PR0221
Functional Gastrointestinal Disorders (FD/IBS/etc.)
The role of fecal serine proteases in the pathogenesis of diarrhea-predominant irritable bowel syndrome
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Objective: Diarrhea-predominant irritable bowel syndrome (IBS-D) is characterized by elevated colonic luminal serine proteases activity, which may be come from gut bacteria. The aims of this study were (1) to analysis the relationship of fecal serine proteases activity with IBS symptoms, small intestinal bacterial overgrowth (SIBO), serum interleukin-6 (IL-6) and erythrocyte sedimentation rate (ESR), (2) to study the effects of antibiotics and probiotics on fecal serine proteases activity and IBS symptoms improvement. Methods: Fecal serine proteases activity, lactulose hydrogen breath test (LHBTs), IL-6, and ESR were detected in 65 cases of patients with IBS-D. Antibiotics and probiotics (metronidazole 0.4
tid+ levofloxacin 0.2 bid+ Bifico 0.42 bid) were administrated to 14 patients with LHB+-positive IBS-D for one week, and the alteration of fecal serine proteases activity and symptoms improvement were investigated. Results: (1) A positive correlation was detected between fecal serine proteases activity and the degree of abdominal pain discomfort (r = 0.37, P = 0.007). (2) The activity of fecal serine proteases was not significantly different between LHB+-positive (5.23–130.62 (median 24.81) U/mg protein) and negative (26.06–177.77 (median 52.80) U/mg protein) IBS-D patients (P = 0.18). (3) Fecal serine proteases activity was not correlated with serum IL-6 and ESR. (4) After taking antibiotics and probiotics for a week, stool frequency, stool consistency, abnormal rates, borborygmmus frequency, extent of abdominal pain were significantly improved compared to before. Fecal serine proteases activity decreased from 12.94–54.77 (median 25.91) U/mg protein to 1.79–17.82 (median 4.32) U/mg protein (P = 0.03). Conclusion: (1). Fecal serine proteases are not mainly secreted by overgrown bacteria in small intestinal of IBS-D patient. (2). Serine proteases are related with the occurrence of abdominal pain in IBS-D patient. (3). Antibiotics and probiotics can decrease fecal serine proteases activity and improve IBS symptoms.

Key Word(s): 1. IBS-D; 2. serine protease; 3. SIBO; 4. antibiotic;

**PRO222 Gastrointestinal Bleeding**

**Propranolol is ineffective in preventing PHG progression in cirrhotics who had variceal eradication**

**Presenting Author:** JEFFEY GEORGE  
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**Objective:** Portal hypertensive gastropathy (PHG) is an important source of gastrointestinal bleeding in patients with portal hypertension. AIM: To assess the progression to severe portal hypertensive gastropathy (PHG) in patients with cirrhosis who were treated with maximum tolerated dose of propranolol, after variceal eradication to grade II or below. **Methods:** Cirrhotic patients (child A and B) presenting with upper gastrointestinal bleeding with endoscopic findings of mild or no PHG were followed up over 6 months after variceal eradication to assess the progression to severe PHG. Included patients were randomised to either maximum tolerated doses of propranolol (group A) or to no treatment (group B). Primary end point of the study were the development of gastrointestinal bleed, evidence of hepatic decompensation and death. Progression to severe PHG were compared between the two groups. Results: 56 patients (49 males) were enrolled (group A = 28, group B = 28). 8 patients were excluded from final analysis (gi bleed = 5, encephalopathy = 2, HCC = 1 including 4 deaths). 3 patients were lost to follow up, and 1 developed intolerance to propranolol. Mean dose of propranolol used was 60 mg per day. Progression to severe PHG in the fundus over 6 months was 23.8% in group A versus 15.8% in group B (p = 0.52). Severe PHG was noted in body in 14.3% in group A versus 21.1% in group B (p = 0.57). 23.8% in group A had progression to severe PHG compared with 15.8% in group B (p = 0.52). There was no statistically significant difference in the progression of PHG between the two groups (p = 0.43). Conclusion: In this short term study propranolol was found not to prevent the progression to severe portal hypertensive gastropathy in cirrhotic patients who had undergone endotherapy for esophageal varices.

Key Word(s): 1. Propranolol; 2. PHG; 3. Randomized;

**PRO223 Gastrointestinal Bleeding**

**Diagnoses and treatment of acute nonvariceal upper gastrointestinal bleeding**

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**Objective:** To investigate the causes, clinical features, treatment and prognosis of acute nonvariceal upper gastrointestinal bleeding (NVUGIB) patients in department of gastroenterology. **Methods:** To analyze prospectively the clinical data of 93 NVUGIB patients admitted to the department of Gastroenterology of the General Hospital of Jihua Company during 2012.1–2006.12. **Results:** (1) General data: male = 2.86 : 1 (69 : 24), mean age23–87 (55.6 ± 17.8) years with a peak in 60–69 years. The percentage of old patients was significantly higher than that of young and middle age (55.7% VS 20.6% and 23.7%, P = 0.000). (2) Peptic ulcer accounted for 85.6% of all bleeding reasons. (3) 30.3% of NVUGIB patients was needed red blood cell suspension transfusion treatment, average amount of red blood cell suspension was 1180 ml. (4) Average time of emergency gastroscopy for 9.7 hours after admission. Emergency gastroscopy rate was 78.3%, the positive rate (92.3%) was significantly higher than the emergency gastroscopy diagnose rate (58.5%), P = 0.000. Cerebral infarction sequela and old age was a major cause of lead to no do emergency gastroscopy. (5) Average Blatchford score was 12.5 points, patients with blood transfusion patients for an average of 14.3 points, patients without blood transfusion for an average of 11.6 points, P = 0.000. Conclusion: Most of the NVUGIB patients admitted to tertiary general hospitals are elderly males. The causes of peptic ulcer disease is the main cause of NVUGIB. Emergency gastroscopy is helpful to the diagnosis of NVUGIB. Blatchford score for condition assessment is has guiding significance. Patients who have lower Blatchford score can application amount standard proton pump inhibitor therapy as early as possible.

Key Word(s): 1. bleeding; 2. Blatchford score; 3. Clinical features;

**PRO224 Gastrointestinal Bleeding**

**A second-look endoscopy in high risk patient after endoscopic submucosal dissection may be necessary**

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**Objective:** A second-look endoscopy is routinely performed after endoscopic submucosal dissection (ESD) in many institutes. Additional hemostatic procedures might be necessary for the high risk bleeding of post-ESD ulcers. But the role of routine second-look endoscopy is controversial. **Methods:** Between December 2008 and May 2012, 616 ESD (270 early gastric cancers and 346 gastric adenomas) procedures were carried out. Second-look endoscopies were performed on the next day after ESD in all patients. And, the post-ESD ulcers were categorized into two groups according to the Forrest classification: high risk (type I and IIa) and low risk of bleeding. Associated predictable risk factors of high risk bleeding ulcer were also analyzed. **Results:** Post-ESD bleeding occurred in 2.27% (14/616). The incidence of High risk group was 17.2% (106/616) on the second-look endoscopy. Post-ESD bleeding occurred only in high risk
group. On the univariate analysis, fibrosis was the only significant predictive factor. Also, on the multivariate analysis, presence of fibrosis was the only significant risk factor for post-ESD bleeding of high risk group.

**Conclusion:** The routine second-look endoscopy may be beneficial for selected patients who have presence of fibrosis on endoscopic finding.

**Key Word(s):** 1. ESD; 2. second look; 3. high risk; 4. bleeding.

### Table 1. Univariate analysis of factors associated with risk of bleeding

| Factor                        | Male Sex | Post ESD bleeding (n = 14) | Post ESD non-bleeding (n = 602) | P value |
|-------------------------------|----------|-----------------------------|---------------------------------|---------|
| Age (years)                   | 54.42 ± 10.02 | 24.29 ± 3.30 | 24.47 ± 2.92 | 0.333 |
| Body mass index (kg/m²)       | 3 (24.0%) | 131 (21.9%) | 131 (21.9%) | 0.787 |
| Hypertension                  | 1 (0.7%) | 57 (9.6%) | 57 (9.6%) | 0.474 |
| Diabetes                      | 13 (92.8%) | 24 (3.9%) | 24 (3.9%) | 0.076 |
| Mucosal atrophy               | 6 (42.8%) | 245 (40.6%) | 245 (40.6%) | 0.708 |
| H. pylori infection           | 4 (28.5%) | 102 (4.1%) | 102 (4.1%) | 0.633 |
| Intestinal metaplasia         | 3 (21.4%) | 55 (9.1%) | 55 (9.1%) | 0.140 |

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**PR0225**

**Gastrointestinal Bleeding**

The clinical efficacy and safety of TIPS in patients with esophageal gastric varices bleeding

**Presenting Author:** WEI CAI

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**Objective:** To assess the clinical efficacy and safety of transjugular intrahepatic portosystemic shunt (TIPS) in treating cirrhotic patients with esophageal gastric varices bleeding. **Methods:** This prospective study included 105 consecutive patients who were enrolled into three groups. We observed success rates, shunt insufficiency rates, rebleeding rates, survival rates, and major complications of overall and different stent groups. **Results:** (1) The overall success rate was 95%. The success rates were 87%, 100%, and 100% in bare stent group, covered stent-grafts group, and combined stent group, respectively (P = 0.01). (2) The overall 6-month, 12-month and 24-month shunt insufficiency rates were 8%, 9%, and 16%, respectively. The overall 6-month, 12-month, and 24-month rebleeding rates were 2%, 6%, and 17%, respectively. The overall 6-month, 12-month and 24-month survival rates were 100%, 97%, and 94%. Shunt insufficiency rate was 26% in bare stent group, 14% in covered stent-grafts group, and 5% in combined stents group (P = 0.61). The rebleeding rate was 33% in bare stent group, 7% in covered stent-grafts group, and 3% in covered stent-grafts group (P = 0.43). The survival rate was 92% in bare stent group, 93% in covered stent-grafts group, and 100% in combined stents group (P = 0.39). (3) Shunt insufficiency rates were higher in patients with splenectomy than those without splenectomy. (P = 0.04). (4) The intraperitoneal hemorrhage rates in covered stent-grafts group and combined stents group were significantly lower than that in bare stent group (P = 0.01). **Conclusion:** TIPS could treat and prevent esophageal gastric varices bleeding in patients with cirrhosis effectively. TIPS with covered stent-grafts could significantly decrease intraperitoneal hemorrhage caused by TIPS, and improve the safety and success rates of treatment. However, the influence of TIPS with covered stent-grafts toward clinical efficacy needs more furthur study.

**Key Word(s):** 1. TIPS; 2. EGVB;

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**PR0226**

**Gastrointestinal Bleeding**

**TIPS with 8 mm stent on portal vein hemodynamics in patients with liver cirrhosis**

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**Objective:** To investigate the effects of transjugular intrahepatic portosystemic shunt (TIPS) with 8 mm stent combined with stomach esophagus varices embolization (SEVE) on portal vein hemodynamics in cirrhotic patients with esophagus and gastric varices bleeding. **Methods:** 48 patients with liver cirrhosis complicated with varices bleeding were performed TIPS combined with SEVE, and their hepatic-portal vein pressure gradients (HPPG) were measured at different time points before or after shunt. Diameter and blood velocity of portal vein and shunt channel, mortality and incidence of rebleeding, shunt dysfunction and hepatic encephalopathy (HE) were followed up as well. Quantities of blood flow in portal vein (Qpv) and shunt channel (Qsc) were caculated. **Results:** (1) HPPG before, 30 min and 120 h after shunt were 22.75 ± 3.87 mmHg, 14.02 ± 4.55 mmHg and 13.2 ± 4.33 mmHg respectively, and the fall in HPPG reached 41.86% from baseline. (2) Qsc were 531.05 ± 578.30 ml/min and 501.87 ± 629.38 ml/min in 3, 6 months after shunt separately, which exceeded Qpv at the same time. (3) Within the average period of 5.65 ± 3.11 months following up, the mortality and incidence of rebleeding, shunt dysfunction and hepatic encephalopathy were 0, 4.17%, 4.17% and 16.67%. **Conclusion:** TIPS with 8 mm stent along with SEVE significantly decrease HPPG immediately and HPPG could reduced further 120 hours after TIPS at least. Excessive shunt flow after TIPS may be associated with relatively high incidence of HE in this study.

**Key Word(s):** 1. TIPS; 2. EGVB;

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**PR0227**

**Gastrointestinal Bleeding**

**Blue rubber bled nevus syndrome:**

**A case associated with severe anaemia**

**Presenting Author:** DIANCHUN FANG

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**Objective:** Blue rubber bled nevus syndrome (BRBNS) is a rare syn- drome characterized by multiple vascular malformations of varying size and appearance that present predominantly on the skin and within the gastrointestinal tract and, less often, in other internal organs. Patients usually present with iron deficiency anemia because of gastrointestinal bleeding or melena, which is often the reason for admission into hospitals. **Methods:** We report a 22-year–old boy who, since birth, presented numerous venous malformations all over his body. **Results:** He had a difficulty in ambulation when he was 16 and received laser therapy. He also had an intermittent melena and chronic anaemia requiring a blood transfusion. The endoscopic examination of the gastrointestinal tract revealed multiple giant venous malformations in the stomach and colon. **Conclusion:** Blue rubber bled nevus syndrome (BRBNS) is a rare congenital systemic angiodysplasia with variable clinical situation and gastrointestinal bleeding is a serious complication. Endoscopy is helpful for the diagnosis of BRBNS with gastrointestinal lesions and also may be therapeutic measures.

**Key Word(s):** 1. BRBNS; 2. severe anaemia; 3. angiodysplasia; 4. bleeding;
PRO228
Gastrointestinal Bleeding
Somatostatin and rebamipide used in colonic diverticular bleeding
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Objective: Colonic diverticular bleeding is the most common cause of overt lower gastrointestinal bleeding in adults. In most cases, the bleeding will stop spontaneously. However, if the bleeding persists, endoscopic, radiologic, or surgical intervention may be required. Here we demonstrate a case where the bleeding from colonic diverticulum can be managed with somatostatin and rebamipide. We thought that the effect of somatostatin in decreasing the blood flow to the bowel and the effect of rebamipide in protecting the colonic epithelial can overcome the bleeding. Methods: Case: A 65 year old woman, came with a syok, pale and hematochezia. She had the history using aspiryl salicylic acid for 5 2 years for her chronic heart disease. From the gastroscopy there was no sign of active bleeding. At that time we could not perform colonoscopy due to the condition. We gave blood transfusion, high dose PPI, somatostatin and rebamipide. After 3 days the bleeding resolve, but when the somatostatin was stoped, the bleeding appeared again. We continued to give somatostatin and after the bleeding stoped again we continued 3 days more. After 3 days without bleeding than we performed the colonoscopy. We saw many Diverticul in colon, with sign of recent bleeding without any active bleeding. We than discharged the patient. Results: The use of Somatostatin and Rebamipide can stop colonic diverticular bleeding. Conclusion: Somatostatin and Rebamipide might be helpful in managing Colonic Diverticular Bleeding.

Key Word(s): 1. diverticular; 2. bleeding; 3. somatostatin; 4. rebamipide;

PRO229
Gastrointestinal Bleeding
Management of peptic ulcer bleeding by endoscopy and 10 cases report
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Objective: To review the peptic ulcer bleeding epidemiology, etiology, clinic, diagnosis and management by endoscopy. Methods: This article provided by the review of literature articles and the First Affiliated Hospital of Guangxi Medical University patients’ data bank. Results: Peptic ulcer bleeding is the most significant complication of ulcer disease, remaining the most important reason for upper gastrointestinal bleeding even in the era of Helicobacter pylori eradication. Endoscopic triage and management plays a vital role in the handling of these patients. Endoscopy is recommended within 24 h of presentation. Endoscopic therapy is indicated for patients with high-risk stigmata, in particular those with active bleeding and visible vessels. The role of endoscopic treatment for ulcers with adherent clots remains to be elucidated. Ablative or mechanical therapies are superior to epinephrine injection alone in terms of preventing of rebleeding. Histocyril and fibrin glue are more costly and less widely adopted alternatives. Mechanical measures are attractive and clips offer an excellent solution, particularly in soft tissues, and combination with initial injection. Thermal methods with coagulation and coaptive axial force have similar performance characteristics. Increasingly, the combination of injection therapy with either a mechanical or thermal method appears the best option to achieve permanent haemostasis. The application of an ulcer-covering hemospray is a new promising tool. High dose proton pump inhibitors should be administered intravenously for 72 h after endoscopy in high-risk patients. Helicobacter pylori should be tested for in all patients with peptic ulcer bleeding and eradicated if positive. Conclusion: EGD is an important tool with high safety and efficacy for treating peptic ulcer bleeding. EGD is more cost-effective than the surgery. Combination therapy of epinephrine injection plus another hemostatic technique or the use of another hemostatic technique alone is more effective than epinephrine alone.

Key Word(s): 1. Peptic ulcer; 2. ulcer bleeding; 3. management; 4. Complications;
Gastrointestinal Bleeding

Endoscopic management of acute nonvariceal gastrointestinal bleeding

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Objective: Acute nonvariceal gastrointestinal bleeding (ANGB) is established for emergency endoscopy. Despite outstanding results of endoscopic therapy, rebleeding is not uncommon. Therefore, we carried out a retrospective study to explore endoscopic treatment strategies in patients with ANGB.

Methods: Retrospective endoscopic outcomes comparison of submucosal saline-epinephrine injection (Group A), submucosal saline-epinephrine injection + hemoclipping (Group B) and submucosal saline-epinephrine injection + high-frequency electrocoagulation + hemoclipping (Group C) were collected in patients with ANGB. Data were collected from electronic medical record and endoscopy database from Jul 2006 to Mar 2013 in our hospital on the following parameters: diagnosis, rebleeding, emergency transcatheater artery embolization (ETAE), surgery and success rate of first hemostasis.

Results: 35 patients were included in Group A, 33 in Group B and 36 in Group C (shown in Table 1). No differences were found among three groups (P > 0.05). 6 rebleeding were included in Group A, and 5 in Group B. 2 ETAE was performed. 1 from Group A, and 1 from Group B. 2 surgery was completed. 1 rebleeding from Group B and 1 bleeding and perforation from Group C. Therefore, success rate of first hemostasis in Group A was 80% (28/35), 79% (26/33) in Group B and 97% (35/36) in Group C, with significant differences observed among three groups (P < 0.05).

Conclusion: Submucosal saline-epinephrine injection, high-frequency electrocoagulation and hemoclipping performed in single-session in endoscopic management of ANGB, had a higher success rate of first hemostasis.

Key Word(s): 1. gastrointestinal; 2. bleeding; 3. nonvariceal; 4. endoscopic therapy;

Gastrointestinal Bleeding

The cause of 79 old aged patients with upper gastrointestinal bleeding

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Objective: To analyse the cause of upper gastrointestinal bleeding on the old people. Methods: The cause of 79 old aged patients with upper gastrointestinal bleeding were reviewed retrospectively. Results: Among the elderly patients, peptic ulcer (n = 31), gastritis (n = 11), anastomosis (n = 3), acute gastric mucosal lesion (n = 6), gastroesophageal varices (n = 7), tumour (n = 5), pancreatitis (n = 1), esophagitis (n = 2), duodenal diverticulum (n = 2), duodenal duplication (n = 1), agnogenio (n = 8), death (n = 3). Conclusion: The main cause of upper gastrointestinal bleeding on the old people is peptic ulcer, gastritis and acute gastric mucosal lesion are the second common cause. Systemic disease also influence the prognosis of this disease, such as, Chronic renal insufficiency, angiocardiopathy and so on.

Key Word(s): 1. elderly people; 2. UGB; 3. factor; 4. peptic ulcer;

Gastrointestinal Bleeding

The intestinal preparation should be done or not by CE in the emergency GI bleeding?

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Objective: With the development of capsule endoscope, more and more obscure active small intestinal bleeding patients are confirmed diagnosed, and gain the chance for continuous treatment. And now this examination has been taken as the first choice for those patients. However, to avoid the influence of massive blood and feces in the intestinal cavity and get the higher quality image, the patients are usually demanded to take some laxatives to prepare the intestine. The laxatives usually have the high risk to induce the intestinal bleeding again in emergency situation. At that time, the patients will be faced to make the hard decisions, either to immediately take the capsular examination that will take a risk of bleeding exacerbation but possibly benefitting from the definite diagnosis, or just to wait for the cessation of bleeding without examination to minimize the bleeding risk but that perhaps could make them miss the diagnostic chance. Whether or not the intestinal preparation is really necessary in that situation, studies about that are still very few. We compared the results of the patients who had the intestinal preparation with those not.

Methods: The patients with active obscure gastrointestinal bleeding were divided into two groups: ones were prepared with the laxatives, and the others were given no preparation before the examinations. The information was collected including the agenda, age, amount of bleeding, the occurrence and risk of rebleeding result from the laxatives, the articulation of imagine, the influence degree of intestinal cavity hematocoele to the imagine results, and the ultimate confirmed diagnosis rate.

Results: The agenda, age, amount of bleeding is not showed significant difference. Because the patients are often fasting for a long time because of bleeding, the articulation of imagine is not influenced even without the intestine prepared. The confirmed diagnostic rate of CE in the prepared group was 58%, the other is about 54%. Therefore, the confirmed diagnostic rate without preparation was not lower than the prepared group. However, the rebleeding rate is in prepare groups was about 28% because of the risk of laxatives stimulating the intestinal mucosa. This exceeds the non-preparing group. Conclusion: It seems not much necessary for intestinal preparation for CE in active bleeding situation, especially in emergency background. Laxatives will increase the rebleeding rate. And rebleeding will reduce the enthusiasm of the patients and doctors which lead to the less positive finding.

Key Word(s): 1. Obscure GI bleeding; 2. Capsule endoscopy; 3. active GI bleeding;

Gastrointestinal Bleeding

Influence of ramadan versus no-ramadan among Hui-Nation patients admissions of UGIB

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Objective: Hui nation has four weeks of dawn-to-dusk fasting in the Muslim holy month of Ramandan in every year. During Ramadan, Muslims refrain from eating, drinking, smoking and sex from dawn to dusk. It is uncertain whether diet among Hui-Nation patients affects the prognosis of upper gastrointestinal bleeding (UGIB) admitted on Ramada
or no-Ramadan. The aim of this study was to analyze the characteristics and the prognosis of UGIB according to Ramadan or no-Ramadan.

Methods: We analyzed Hui-Nation patients' admissions of UGIB in the affiliated hospital of Ningxia medical university from 1995 to 2012 (a total of 638 admissions). Differences in mortality, the rate of rebleeding, costs, and hospital stays between Hui-Nation patients on Ramadan and no-Ramadan were evaluated using regression models with adjustment for patients and clinical factors. Results: Ramadan admissions were associated with significantly higher hemorrhage rates than those of non-Ramadan admissions among Hui-Nation patients. There were significant differences in bleeding between Ramadan and no-Ramadan. Hemorrhagic and erosive gastropathy and peptic ulcer are the main reason of UGIB in Ramadan. Peptic ulcer and esophageal varices are the main reason of UGIB in no-Ramadan. Ramadan admissions were associated with significantly higher hospitalization rates, blood transfusion and the rate of rebleeding (P < 0.05). There was no difference in UGIB mortality between Ramadan and no-Ramadan. Conclusion: Ramadan admission for UGIB is associated with increased longer lengths of stay, and higher in-patient charges, but no difference in mortality in Hui-Nation patients.

Key Word(s): 1. Ramadan; 2. no-Ramadan; 3. Hui-Nation; 4. UGIB;

PR0235 Gastrointestinal Bleeding Risk factors analysis of upper gastrointestinal hemorrhage induced by dual anti-platelet treat
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Objective: To investigate the risk factors of dual anti-platelet treatment related upper gastrointestinal hemorrhage. Methods: 2004 patients taking dual anti-platelet treatment for coronary heart disease were retrospectively analyzed and followed up. Results: The incidence of dual anti-platelet treatment related upper gastrointestinal bleeding was associated with age, smoke, history of hypertension, abnormal test parameters and the use of PPI protective acid-suppressing agents. Conclusion: The long term use of dual anti-platelet treatment can increase the risk upper gastrointestinal bleeding in the elderly patients, in addition to smoke, history of hypertension, abnormal test parameters. Gastric mucosal protective or acid suppressing agents is effective in reducing the occurrence of upper gastrointestinal bleeding.

Key Word(s): 1. Dualanti-platelet; 2. Upper gastrointestinal;

PR0236 Gastrointestinal Bleeding The influence of aspirin on the bleeding caused by endoscopic biopsy
Presenting Author: CHEN MING
Corresponding Author: CHEN MING

Objective: With the increased incidence of cardiovascular diseases and diabetes, the enteric-coated aspirin preparations as the basic therapy are used widely in clinic. The side effects on gastrointestinal (especially the upper gastrointestinal bleeding) has been recognized, but there are rare domestic and reports about whether there is any influence caused by oral enteric-coated preparations of aspirin on the endoscopic biopsy bleeding.

Methods: Study subjects are the hospitalized patients who did the endoscopy biopsy examination, in Gastroenterology department of Tianjin Nankai Hospital, from January 1, 2010 to December 31, 2010. This study is divided into two groups: aspirin group (with aspirin taking history) and non-aspirin group. The following clinical data need to be collected: Disease history and medication history; platelet count (PLT) and coagulation (PT; APTT). All patients were observed about the bleeding time of the first gastric biopsy part. Bleeding stop criteria: there were no active bleeding of the biopsy parts and no spread of the mural blood flow, which were observed through endoscopy. Take the endoscopy to count the bleeding time in seconds (S). Results: 358 cases of endoscopic biopsy hospitalized in Gastroenterology were collected into this study, in which aspirin group with 121 cases (33.8%), non-aspirin group with 237 cases. There was no significant difference between the two groups of patients with smoking and drinking history. There was no significant difference between the two groups in PLT. There was no significant difference between the two groups in PT and APTT. Beeding time of the endoscopic biopsy part: Aspirin group 109 ± 37.2S, non-aspirin group 71 ± 22.7S, P < 0.05. Here were 3 cases who required endoscopic hemostasis in Aspirin group; 2 cases in non-aspirin group. Conclusion: This study showed that the time of bleeding caused by endoscopic biopsy was prolonged in patients with aspirin taking, and the rate of endoscopic hemostasis was increased.

Key Word(s): 1. aspirin; 2. endoscopic biopsy; 3. bleeding;

PR0237 Gastrointestinal Bleeding Treatment experience of esophageal varices ligation in control of acute variceal bleeding
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Objective: This trial was to evaluate the clinical value of esophageal varices ligation (EVL) on the varicale bleeding. Methods: 38 patients with esophageal variceal bleeding were randomly assigned to True and Placebo. Patients in True had a gastroscopy and EVL as soon as they had an admission to hospital; patients in Placebo were treated with Sandostatin at a first dose of 50–100 μg via intravenous injection, followed by a 0.5 μg/h continuous intravenous infusion for 3–5 days. Results: In treatment group, the success rate of controlling bleeding is 98%, the rate of recurrent bleeding is 0%, the rate of eliminating esophageal varices is 82%, and no one needs blood transfusion. And in the control group, the success rate of controlling bleeding is 73% (P < 0.05), the rate of recurrent bleeding is 28.2% (P < 0.05), the rate of blood transfusion during hospitalization is 85.2%, and the average of blood transfusion volume is up to 520 ml. Conclusion: Endoscopic ligation of esophageal varicale bleeding has proved to be a useful tool in the control of acute varicale bleeding, and this therapy is much easier technical, more secure, less side effects and it is easier tolerated.

Key Word(s): 1. varices ligation; 2. varicale bleeding;

PR0238 Gastrointestinal Bleeding Esophageal and gastric varices; ligation; tissue glue
Presenting Author: YANG JING
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Objective: To observe the efficacy of endoscopic varicale ligation and tissue glue injection therapy in the treatment of patients with esophageal and fundal varices. Methods: 56 cases with esophageal varices were treated with endoscopic varicale ligation, and 10 cases among those accompanied with gastric fundal varices were treated with tissue glue injection. All cases were followed-up for 12 months. Results: The effective rate of endoscopic varicale ligation in esophageal was 80.4%, the rate of hemostasis 6.4% and the incidence of complications 9.6%. The effective rate of tissue glue injection in gastric fundal varices was 100% and the incidence of complications was 10.0%. Conclusion: Endoscopic vari-
Gastrointestinal Bleeding

PR0239
Gastrointestinal Bleeding
Effectiveness of a nurse led anaemia clinic

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Objective: Iron deficiency anaemia (IDA) is a common reason for referral to gastroenterologists. The British Society of Gastroenterology (BSG) guidelines (updated 2011) state that all patients with IDA should be tested for coeliac disease and all men and postmenopausal women should be considered for upper and lower gastrointestinal tract (GI) investigation. In this clinic, a specialist nurse assesses patients, checks haemoglobin (Hb), MCV, ferritin, and endomysial antibodies (EMA), and then arranges further investigations. Methods: The data from three sequential audits was collated and reviewed to assess compliance with BSG guidelines. All three audits used a standardised data collection proforma. Results: A total of 183 patients were referred during the three audit periods (2004, 2005, and 2012). Female patients outnumbered males by a ratio of more than 2 : 1. The mean time from referral to be seen in clinic was 25 days, 28 days, and 13 days respectively. Hb and MCV were checked in all patients and ferritin in 98%–100%. Among patients referred, IDA was confirmed in 86%, 79%, and 90% respectively. EMA was checked in 89%, 100%, and 97% respectively. Of patients found to have IDA, the proportion sent for both upper and lower GI investigation was 72%, 95%, and 99% (90% attended and completed investigations). In the 2004 audit, a further 17% underwent gastroscopy only and 12% had colonoscopy only. Conclusion: The nurse led clinic for anaemia has proved to be an effective way to manage the large number of referrals for investigation of IDA. Significant pathology is identified early as a result of the requested investigations (up to 9% colorectal cancers and up to 6% coeliac disease). Notable improvements in the service since 2004 are reduced waiting times and increased compliance with investigation recommendations. The proportion of patients referred who are confirmed to have IDA has also increased.

Key Word(s): 1. Anaemia; 2. Iron deficiency;

PR0240
Gastrointestinal Bleeding
Clinical analysis of upper gastrointestinal bleeding in 365 elderly patients

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Objective: To analyze the clinical features of upper gastrointestinal bleeding (UGB) in elderly patients. Methods: The clinical features of 365 elderly patients with UGB treated in our hospital from January 2009 to December 2012 were retrospectively analyzed, and compared with those of 410 younger patients during the same period. Results: Incidence of UGB caused by peptic ulcer, acute gastric mucosal lesion and digestive tract cancer is significantly higher in older age-group than in younger group (P < 0.01 or 0.05), while the incidence by esophageal-gastric varices bleeding (EGVB) is significantly lower in older age-group than in younger group (P < 0.01). UGB caused by gastric ulcer is mainly in older age-group than in younger patients (P < 0.05). Incidence of hypo-perfusion of peripheral circulation is significantly higher in older age-group than in younger group, while that of upper abdominal pain is significantly lower in older age-group than in younger group (P < 0.01). Incidence of haematemesis is significantly lower in older age-group than in younger group, while incidence of tarry stool is significantly higher in older age-group than in younger group (P < 0.05). There are more chronic diseases and complications in aged patients than younger patients (P < 0.01). Rehaemorrhagia rate and death rate in aged patients is also significantly higher than in younger patients (P < 0.05). Conclusion: UGB in elderly patients is mainly caused by peptic ulcer, acute gastric mucosal lesion and digestive tract cancer. There are not known contributing causes for UGB in most elderly patients, but risk of UGB is high in the elderly patients used non-steroids or glucocorticoid. Their clinical symptoms largely is hypo-perfusion of peripheral circulation and tarry stool, and upper abdominal pain with minority. There are more chronic diseases, complications, rehaemorrhagia rate and death rate in aged patients.

Key Word(s): 1. Elderly patient; 2. Ibleeding; 3. Clinical feature;
Coexistence of gastrointestinal stromal tumors with other malignancies: More than a coincidence?

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Objective: Over the last decade, several changes occurred in the diagnostics, treatment and understanding of pathogenesis of the gastrointestinal stromal tumors (GIST). However, their coexistence with other malignancies of different origin remains a challenging situation during the interdisciplinary management of GIST-patients. Methods: Patients diagnosed with GIST in a 10-years period (2000–2009) were identified retrospectively and clinical history and findings thoroughly explored for the presence of associated other malignancies. Follow up data were obtained and analyzed for prognostic impact of the concurrent malignancy and/or GIST. Results: Thirty six (26 male, 10 female) of 86 GIST patients (42%) were associated with other malignancies (n = 41). The mean age was 70 years (range, 56–86). GIST-associated malignancies were: gastrointestinal carcinomas (n = 29; 71%), renal-urological carcinomas (n = 5; 12.5%), haematological malignancies (n = 3; 7%), skin carcinoma (n = 3; 7%) and thyroid cancer (n = 1; 2.5%). The majority of GISTs occurred in stomach (64%) and small intestine (31%), with rare occurrence in rectum (2.5%) or esophagus (2.5%). In 78%, GIST were asymptomatic and accidentally found during diagnostic or therapeutic procedures for associated malignancies. GIST’s size ranged from 0.1 cm to 9 cm (mean size: 2.3 cm) and all of them had a low (<5/50 HPFs) or no mitotic rate. CD117 was expressed in 84% and CD34 in 67%. Thirty tumors (84%) were of no- very differentiated NET.

H. pylori

Prevalence and susceptibility of H. pylori in treatment naïve patients Auckland, New Zealand

Presenting Author: ALASDAIR PATRICK
Additional Authors: JOHN HSAING
Corresponding Author: ALASDAIR PATRICK

Objective: 1. To investigate the current prevalence of H. pylori infection in the patients of South Auckland Gastroenterology endoscopy service. 2. To estimate the antibiotics resistance pattern of H. pylori infection in South Auckland patients

Methods: Consecutive patients undergoing gastroscopy at Middlemore Hospital from February 2012, were recruited prospectively. All patients were checked to ensure they are treatment naïve (history, serology, previous endoscopy). All patients were consented for biopsy of stomach tissue for culture and antibiotics testing. Four antibiotics disc testing were performed (amoxicillin, tetracycline, clarithromycin, metronidazole and moxifloxacin). Within 24 hours, gastric biopsies of patients with positive CLO test (RUT) were send to the laboratory for culture and antibiotics testing. Results: 59 out of 351 patients enrolled were positive for CLO test (rapid urease test RUT), giving a prevalence of 16.8% for treatment naïve patients in the population. The interim result of the 50 patients enrolled in the study, 24% of the patients had GI bleeding, half of them with peptic ulcer disease. 22% had dyspepsia/abdominal pain, 22% had iron deficiency anaemia. Out of 50 samples positive for H. pylori, 34 samples were positive for culture. The antibiotics resistance for the five antibiotics were divided the NETs into 5 categories: well-differentiated endocrine tumors (Grade 1, carcinoid), well-differentiated (Grade 2) endocrine carcinomas, poorly-differentiated endocrine (grade 3, small cell) carcinomas, mixed endocrine-exocrine tumors, and tumor like lesions. Gastrointestinal stromal tumor (GIST) is also a very rare and relatively new diagnostic entity that has been the focus of considerable clinical and laboratory research in the last 10 years. Both NET and GIST are usually subclinical and asymptomatic when they are small-sized. Herein we report a case with perforated peptic ulcer (PPU) who had these two extremely rare tumors coexisting near the gastric pylorus.

Methods: This 80-year-old male who had long-term history of NIDDM, HCVD, PUD and cervical spondylitis, underwent emergently exploratory laparotomy for PPU with hemorrhage. Hemi gastrectomy with Billroth No-II anastomosis and tube duodenostomy was carried out due to markable deformity of pylorus and a 2-cm blowout perforation at duodenal bulb. The pathology revealed incidentally the coexistence of NET and GIST. The postoperative course was not smooth on account of intractable UGI bleeding since 7th postoperative day. So we recommended the continuously intravenous drip of somatostatin analogs in attempt to stop the bleeding but in vain. Eventually the patient died of multiple-organ failures on 35th postoperative day. Results: We can not confirm Weather or not the post-operatively intractable GI hemorrhage is related to the residual (multifocal) NETs or GISTs because the further investigations including panendoscopy and endoscopic ultrasonography were not feasible for this critical case who needed respirator-support. But the 24-hr urine 5-HIAA was within normal range. Conclusion: This case presents the unique synchronous coexistence of two extremely rare entities, a low-graded GIST and a well-differentiated NET.

Key Word(s): 1. Neuroendocrine tumor; 2. GIST; 3. PPU;

Gastrointestinal Surgery

Synchronous neuroendocrine tumor and gastrointestinal stromal tumor in a case with PPU

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Objective: Neuroendocrine tumor (NET) of gastrointestinal tract is a very rare, difficult and confusing tumor to diagnosis, particularly in early asymptomatic stage. The nomenclature is also complicated until 2010 when WHO
Table 1

|                   | Amoxicillin | Tetracycline | Metronidazole | Clarithromycin | Moxifloxacin |
|-------------------|-------------|--------------|---------------|----------------|--------------|
| Culture positive  | 34          | 34           | 34            | 34             | 24           |
| MIC 50            | 0.016       | 0.016        | 0.125         | 0.016          | 0.0395       |
| MIC90             | 0.06        | 0.094        | >256          | 24             | 0.38         |

Conclusion: The resistance to amoxicillin and clarithromycin is significant among treatment naïve patients. Our local resistance pattern is comparable to other European and Asian countries where H. pylori infection is prevalent. New first-line therapy may be needed to treat this infection with high clarithromycin resistance, other than the standard triple therapy of omeprazole/amoxicillin/clarithromycin.

Key Word(s): 1. Helicobacter; 2. Resistance; 3. Antibiotics; 4. Prevalence;

|                   | Amoxicillin | Tetracycline | Metronidazole | Clarithromycin | Moxifloxacin |
|-------------------|-------------|--------------|---------------|----------------|--------------|
| Culture positive  | 34          | 34           | 34            | 34             | 24           |
| MIC 50            | 0.016       | 0.016        | 0.125         | 0.016          | 0.0395       |
| MIC90             | 0.06        | 0.094        | >256          | 24             | 0.38         |

**PRO245**

**H. pylori**

**A study on eradication of Helicobacter pylori using three 7-days triple therapies**

**Presenting Author:** XIUQING WEI

**Additional Authors:** WEI MAO, HUIXIN HE, YUNWEI GUO, BIN WU

**Corresponding Author:** XIUQING WEI

**Affiliations:** Department of Digestive Disease, Third Affiliated Hospital of Zhongshan University

**Objective:** Increasing resistance to clarithromycin and metronidazole causes a lot of failures in the eradication of Helicobacter pylori. The aim of this study was to test whether a triple therapy regimen containing esomeprazole, amoxicillin and furazolidone may get a higher eradication rate than those containing metronidazole or clarithromycin instead of furazolidone.

**Methods:** This study included 182 patients with Helicobacter pylori related peptic ulcer disease. The eradication therapy consisted of a 7-days twice daily oral administration of esomeprazole 20 mg, amoxicillin 1000 mg, furazolidone 200 mg (regimen EAF), or clarithromycin 500 mg (regimen EAC) or metronidazole 400 mg (regimen EAM) instead of furazolidone. Therapeutic success was confirmed by a negative 13C-urea breath test performed four to eight weeks after cessation of therapy.

**Results:** By the intention-to-treat (ITT) analysis, the overall Helicobacter pylori eradication rates and 95% confidence intervals (95% CI) of the EAF, EAC and EAM groups were 85.2% (95% CI: 76.3%–94.1%), 68.3% (95% CI: 56.5–79.9%) and 62.3% (95% CI: 50.1–74.5%). By the per protocol (PP) analysis, the overall Helicobacter pylori eradication rates and 95% confidence intervals (95% CI) of the EAF, EAC and EAM groups were 86.7% (95% CI: 78.1–95.3%), 70.7% (95% CI: 59.0–82.4%) and 65.5% (95% CI: 53.3–77.7%). The eradication rate of the EAF group was significantly higher than those of the EAC and EAM groups by both intention-to-treat (ITT) and per protocol (PP) analysis (P = 0.027 and P = 0.004 for ITT, P = 0.038 and P = 0.008 for PP). Forty three (23.6%) of the 182 patients reported possible or probable medication-related adverse events. There were no significant differences of the rates of adverse events between treatment groups (P = 0.8134).

**Conclusion:** The EAF regimen is a reasonable choice while the EAC and EAM regimens are not good choices of first-line therapies of Helicobacter pylori eradication in our region.

**Acknowledgements:** This study was supported by National Natural Science Foundation of China, No. 81272640; Guangdong Science and Technology Program, No. 2010B031200008 and No. 2012B031800043.

**Key Word(s):** 1. Helicobacter pylori; 2. eradication; 3. first-line; 4. triple therapy;

**PRO246**

**H. pylori**

**A two-week triple therapy as a second-line rescue regimen for the eradication of Helicobacter pylori**

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**Objective:** Bismuth based quadruple therapy is a preferred option as a choice of first-line eradication failures. However, bismuth is not currently available in many countries. Management of first-line eradication failures is becoming challenging. The aim of this study was to test whether a two-week triple therapy regimen containing esomeprazole, amoxicillin and furazolidone can serve as an alternative rescue therapy regimen.

**Methods:** This study included 121 patients with gastritis or peptic ulcer disease with a recent history of failed Helicobacter pylori eradication therapy with a pump inhibitor + clarithromycin + amoxicillin (Group A) or a pump inhibitor + clarithromycin + metronidazole (Group B) for the first time. The eradication therapy consisted of a 2-week twice daily oral administration of esomeprazole 20 mg, amoxicillin 1000 mg, furazolidone 200 mg. Therapeutic success was confirmed by a negative 13C-urea breath test performed four to eight weeks after cessation of therapy.

**Results:** By the intention-to-treat (ITT) analysis, the Helicobacter pylori eradication rates and 95% confidence intervals (95% CI) of the overall, Group A and Group B were 81.8% (95% CI: 74.9%–88.7%), 84.1% (95% CI: 77.5–90.6%) and 78.9% (95% CI: 71.6–86.1%). By the per protocol (PP) analyses, the Helicobacter pylori eradication rates and 95% confidence intervals (95% CI) of the overall, Group A and Group B were 88.4% (95% CI: 82.7–91.6%), 90.6% (95% CI: 85.4%–95.8%) and 85.4% (95% CI: 79.1%–91.7%). There were no significant differences of the eradication rates between group A and group B by both intention-to-treat (ITT) and per protocol (PP) analyses (P = 0.462 for ITT, P = 0.394 for PP).

**Conclusion:** The two-week triple therapy regimen containing esomeprazole, amoxicillin and furazolidone can serve as a rescue therapy regimen for patients with a recent history of first time treatment failure with a standard first-line therapy in our region.

**Acknowledgements:** This study was supported by National Natural Science Foundation of China, No. 81272640; Guangdong Science and Technology Program, No. 2010B031200008 and No. 2012B031800043.
**Objective:** In the developing countries, Helicobacter pylori eradication is a serious health problem because this infection is seen in a large number of people and there is growing antibiotic resistance rates for a lot of drugs. So we aimed to find out the antibiotic resistance profile of the Hp strains in order to reveal the efficacy of the conventional triple eradication therapy consisting of amoxicillin + clarithromycin + proton pump inhibitor.

**Methods:** Fifty-nine patients who admitted to the Gastroenterology outpatient clinic with dyspeptic complaints and positive stool Hp antigen were included. Upper gastrointestinal endoscopies of the patients were performed and biopsy specimens from the antrum and the corpus of the stomach were taken for bacteria culture, and PCR. If Hp is isolated with bacterial culture, the antibiograms for amoxicillin, tetracycline, clarithromycin and levofloxacin were performed. **Results:** All of the 59 patients' PCR results for Hp were positive. In 50 (84.7%) patients, Hp was isolated with culture and the antibiograms were performed. The resistance rate was 42.4% (n = 25) for clarithromycin, 5.1% (n = 3) for amoxicillin and 15.3% (n = 9) for tetracycline. Levofloxacin resistance can not be studied in two patients because of technical reasons, but all the remaining culture positive patients did not have levofloxacin resistance. Thirteen patients had multidrug resistance; amoxicillin and clarithromycin in 2 (3.4%), amoxicillin and tetracycline in 1 (1.7%), tetracycline and clarithromycin in 9 (15.3%) patients. One patient had resistances for all three antibiotics (1.7%). **Conclusion:** According to our results, clarithromycin resistance rate is very high to recommend the conventional triple therapy for Hp eradication. On the other hand, amoxicillin + levofloxacin + proton pump inhibitor therapy may be a suitable therapeutic option for the patients living in a developing country, because amoxicillin resistance is very low and levofloxacin resistance is absent.

**Key Words:** 1. Helicobacter pylori; 2. Triple therapy; 3. Drug Resistance; 4. Eradication;

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**Key Word(s):** 1. Helicobacter pylori; 2. eradication; 3. rescue; 4. triple therapy;

**PRO247**

**H. pylori**

**The antibiotic resistance of the Helicobacter pylori strains in a developing country**

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**Corresponding Author:** YUKSEL GUMURDULU

**Affiliations:** Internal Medicine; Gastroenterology; Microbiology; Pathology

**Objective:** In the developing countries, Helicobacter pylori eradication is a serious health problem because this infection is seen in a large number of people and there is growing antibiotic resistance rates for a lot of drugs. So we aimed to find out the antibiotic resistance profile of the Hp strains in order to reveal the efficacy of the conventional triple eradication therapy consisting of amoxicillin + clarithromycin + proton pump inhibitor.

**Methods:** Fifty-nine patients who admitted to the Gastroenterology outpatient clinic with dyspeptic complaints and positive stool Hp antigen were included. Upper gastrointestinal endoscopies of the patients were performed and biopsy specimens from the antrum and the corpus of the stomach were taken for bacteria culture, and PCR. If Hp is isolated with bacterial culture, the antibiograms for amoxicillin, tetracycline, clarithromycin and levofloxacin were performed. **Results:** All of the 59 patients' PCR results for Hp were positive. In 50 (84.7%) patients, Hp was isolated with culture and the antibiograms were performed. The resistance rate was 42.4% (n = 25) for clarithromycin, 5.1% (n = 3) for amoxicillin and 15.3% (n = 9) for tetracycline. Levofloxacin resistance can not be studied in two patients because of technical reasons, but all the remaining culture positive patients did not have levofloxacin resistance. Thirteen patients had multidrug resistance; amoxicillin and clarithromycin in 2 (3.4%), amoxicillin and tetracycline in 1 (1.7%), tetracycline and clarithromycin in 9 (15.3%) patients. One patient had resistances for all three antibiotics (1.7%). **Conclusion:** According to our results, clarithromycin resistance rate is very high to recommend the conventional triple therapy for Hp eradication. On the other hand, amoxicillin + levofloxacin + proton pump inhibitor therapy may be a suitable therapeutic option for the patients living in a developing country, because amoxicillin resistance is very low and levofloxacin resistance is absent.

**Key Words:** 1. Helicobacter pylori; 2. Triple therapy; 3. Drug Resistance; 4. Eradication;

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**Key Word(s):** 1. Helicobacter pylori; 2. gastric cancer; 3. HIF-1a; 4. iNOS;

**PRO248**

**H. pylori**

**CagA+ H. pinfection combining with HIF-1a overexpression tends to be poorly prognosis for GC**

**Presenting Author:** LI MAN

**Additional Authors:** ZHANGZHI GUANG

**Corresponding Author:** ZHANGZHI GUANG

**Objective:** Aimed to assess the relationship between cagA+ H. pylori and the clinicopathological features and prognosis of gastric cancer (GC).

**Methods:** 198 GC patients who had detailed clinicopathological parameters and c14 breath record were enrolled. 98 gastritis patients with c14 breath record were divided into atrophy gastritis and non-atrophy gastritis. PCR method was used to defined the caga gene diversity. The expression of HIF-1a and iNOS were assessed by immunohistochemical staining. Kaplan-Meier survival analysis were performed to analysis the relationship between cagA gene and GC patients prognosis. **Results:** H. pylori infection was greater in GC patients than the gastritis patients (p < 0.05). CagA gene was presented in 95 gastric cancer patients, 10 in atrophy gastritis and 4 in non-atrophy gastritis patients (p < 0.05). H. pylori infection were related to the proximal tumor site and intestinal type cancer (p < 0.05). Meanwhile cagA+ H. pylori infection was only related to the tumor invasive depth. CagA+ GC samples exhibited more stronger expression of HIF-1a and iNOS than that in cagA- GC group. There seemed to be shorter survival time in the cagA+ GC patients. **Conclusion:** H. pylori infection status were related to proximal GC and intestinal type GC, while cagA+ H. pylori was associated with tumor invasive depth. The prognosis of patients with cagA+ H. pylori status intends to be poorly which might be owing to combining with overexpression of HIF-1a and iNOS.

**Key Word(s):** 1. helicobacter pylori; 2. gastric cancer; 3. HIF-1a; 4. iNOS;

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**Key Word(s):** 1. Helicobacter pylori; 2. triple therapy; 3. Drug Resistance; 4. Eradication; 5. iNOS;
Conclusion: Increased risks of GAA were found for individuals with cagA positive status, whose adjusted odds ratios (95% confidence intervals 1.12–2.66 and 1.24–5.43, respectively). The risk of GAA, more specifically XPF-GG, adjusted odds ratios 1.61 and 2.60; 95% confidence intervals 5.87–9.09. We also found that individuals with the XPF genotypes with cagA positive [odds ratio (OR), 7.31; 95% confidence interval (CI), 5.87–9.09] were randomized to either amoxicillin, furazolidone and esomeprazole washout period of 6 weeks from any prior antibiotic or PPI usage. Patients testing were eligible for inclusion in this study. All patients underwent a diagnosis of HP-positive confirmed using endoscopy or C13 urea breath testing were confirmed by C13 urea breath testing at least 4 weeks after cessation of therapy. Results: Intention-to-treat analysis revealed significant differences (P < 0.05) in the eradication rates of the amoxicillin, furazolidone, esomeprazole 10 days therapies were 82.9% (87/105) compared with those receiving standard treatment eradication rates were 73.2% (82/112). There were no differences in adverse effects between the groups. Conclusion: Amoxicillin, furazolidone and esomeprazole 10 days therapies were prior to standard treatment eradication. A large randomized controlled trial was warranted to further evaluate the efficacy of this regimen.

Key Words: 1. Eradication; 2. Helicobacter Pylori; 3. furazolidone;

PR0250

H. pylori

H. pylori VacA not interact with ANTs in the process of inducing apoptosis

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Objective: To explore the role of adenine nucleotide translocators (ANTS) in Helicobacter pylori VacA cytotoxin-induced mitochondria-mediated apoptosis of gastric cancer cells.

Methods: Plasmid pGBK7-VacA p37 was constructed and transfected into cells of a human stomach adenocarcinoma cell line, AGS. Semiquantitative reverse transcription polymerase chain reaction and Western blotting were used to determine the expressions of ANTs and apoptosis-associated genes in AGS cells transfected with VacA p37. The interactions of H. pylori VacA cytotoxin and ANTs were detected by yeast two-hybrid and co-immunoprecipitation assays.

Results: Transfection of H. pylori VacA p37 increased the mRNA and protein expression of ANT1 and ANT3, but not ANT2. Moreover, VacA p37 up-regulated Bax expression of both down-regulated Bcl expression of -2 at both mRNA and protein levels in AGS cells. Yeast two-hybrid and co-immunoprecipitation assays did not show any protein interaction between H. pylori VacA p37 and ANTs.

Conclusion: H. pylori VacA induces mitochondrion-mediated apoptosis of AGS cells in an ANT isomorphism-specific manner, and the Bcl-family is involved in this process. However, H. pylori VacA appears not to directly interact with ANTs to mediate mitochondrion-mediated apoptosis.

Key Words: 1. Helicobacter pylori; 2. VacA cytotoxin; 3. ANTs; 4. Yeast two-hybrid;

PR0251

H. pylori

Comparison of furazolidone and clarithromycin triple therapy regimens for H. pylori eradication

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Affiliations: The Third Affiliated Hospital of Sun Yat-Sen University

Objective: Increasing resistance against H. pylori has resulted in reduced eradication rates. The efficacy and tolerability of a second-line furazolidone-containing triple regimen (PPI-amoxicillin-furazolidone) in the eradication of H. pylori was evaluated.

Methods: 217 Patients with a diagnosis of HP-positive confirmed using endoscopy or C13 urea breath testing were eligible for inclusion in this study. All patients underwent a washout period of 6 weeks from any prior antibiotic or PPI usage. Patients were randomized to either amoxicillin, furazolidone and esomeprazole therapy for 10 days, including amoxicillin 1000 mg twice daily with meals, furazolidone 100 mg twice daily with meals, and esomeprazole 20 mg twice daily with meals, or esomeprazole, amoxicillin, and clarithromycin standard therapy for 10 days, which included esomeprazole 20 mg, amoxicillin 1 g with breakfast and dinner, and clarithromycin 500 mg with breakfast and dinner. HP eradication was confirmed by C13 urea breath testing at least 4 weeks after cessation of therapy.

Results: Intention-to-treat analysis revealed significant differences (P < 0.05) in the eradication rates of the amoxicillin, furazolidone, esomeprazole 10 days therapies were 82.9% (87/105) compared with those receiving standard treatment eradication rates were 73.2% (82/112). There were no differences in adverse effects between the groups.

Conclusion: Amoxicillin, furazolidone and esomeprazole 10 days therapies were prior to standard treatment eradication. A large randomized controlled trial was warranted to further evaluate the efficacy of this regimen.

Key Words: 1. β-catenin; 2. Wnt signal; 3. RNA interference; 4. MSCs;
PRO253
H. pylori
The relationship between oxidative DNA damage and APE-1 expression in H. pylori infected GES-1
Presenting Author: JING LV
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Corresponding Author: XU SHU
Affiliations: Nanchang University First Affiliated Hospital

Objective: To investigate the relation between cell injury and repair in different Hp concentration and duration of infection in gastric mucosal, further provide a theoretical basis for its Hp pathogenic mechanisms.

Methods: Selecting Hp ACTC43504 (CagA+, VacA+) standard strains infect GES-1 cell. Use logarithmic growth phase of Hp infection GES-1, take bacterial cells ratio 100 : 1, Hp infect gastric GES-1 0 h, 1 h, 3 h, 6 h, 12 h, 24 h; the different Hp concentration infect GES-1 cell in 6 h, bacterial cell ratio choose 0.50 : 1, 100 : 1, 150 : 1, 200 : 1, 300 : 1, then detect: DNA damage, ROS level, APE-1 expression, APE-1 intracellular localization.

Results: In studies in vitro, (1) the damage was more obvious in bacterial cell ratio 100 : 1 at 24 h, DNA damage was the deepest. Different concentration of Hp infect GES-1 in 6 h, the more higher Hp’s concentration, the heavier DNA damage. (2) ROS content was gradually increased at the bacterial cell ratio of 100 : 1 in 24 h., ROS level reached the maximum at infection 24 h. Different concentration of Hp infection GES-1 in 6 h, ROS content was increased, the higher Hp concentration, the higher ROS content. (3) Hp infect GES-1 by bacteria cell ratio 100 : 1, the protein gray of APE-1 was gradually deepened with time extend, the grayscale was deepest at 12 h, 24 h grayscale was obvious lower 12 h. Different concentration of Hp infection GES-1 in 6 h, compared to control group, APE-1 grayscale was deeper. The deepest grayscale was the ratio of 300 : 1. by immunocytochemistry results, APE-1 only express in the cytoplasm, APE-1 expression after Hp infection gradually increased and staining deepened, 12 h staining was the deepest. Though the analysis of the mean optical density value, the optical density value was gradually increased, the optical density value of 24 h was lower 12 h. Different concentration of Hp infection GES-1 at 6 h, compared to the control group, the staining of cell was deeper after Hp infection, the staining was the deepest of the ratio 300 : 1. Conclusion: Hp infection could cause the increase of intracellular ROS content and the damage of DNA, all of these were positively correlated with the Hp concentration and infection time; APE-1 cytoplasm expression gradually increased after the early Hp infection. But APE-1 expression of the cytoplasm decreased in late stage, protein synthesis of APE-1 decreased; the higher of the Hp concentration, the more protein synthesis APE-1, the protein synthesis APE-1 may be related to the cytoplasm of ROS and the repair of the damaged mitochondrial DNA.

Key Word(s): 1. Helicobacter pylori; 2. APE-1; 3. DNA damage; 4. 8-OHdG;

PRO254
H. pylori
Evaluation of the relationship between Helicobacter pylori infection and GERD
Presenting Author: HOUSHENG LU
Corresponding Author: HOUSHENG LU
Affiliations: the ninth hospital of Chongqing

Objective: To study the status of Helicobacter pylori infection and its correlation with GERD. Methods: Extract the healthy check-up and our outpatients for the detailed questionnaire and C14 breath test. Analysis the relationship between Hp infection and GERD. Results: 220 cases of healthy check-up person included, 108 cases of HP positive. All GERD patients, 238 cases of HP positive, the positive rates of HP infection of 0–3 months, 3–6 months and more than 6 months GERD patients were 47.8%, 44.1% and 27.5%. The rates of GERD group 6 months above were lower than other groups (P < 0.01) with statistical significance. Conclusion: Inflection levels were different in different stages of GERD. The HP infection rates of the severe symptoms and repeatedly patients were lower. No more GERD related cases appear after HP eradication of healthy people.

Key Word(s): 1. helicobacter pylori; 2. 14C; 3. breath test; 4. GERD;

PRO255
H. pylori
Remedy efficacy evaluation of 10 sequential therapy in the treatment of Helicobacter pylori after failure
Presenting Author: XIONG YANYAN
Corresponding Author: XIONG YANYAN
Affiliations: ying tan people’s hospital

Objective: To compare the eradication efficacy of 10-day sequential therapy and quadruple therapy for patients with failed H. pylori eradication. Methods: Eight-nine patients who had failed H. pylori eradication were randomly divided two groups. Forty-five patients received a 10-day sequential therapy [rabeprazole (10 mg, twice daily) plus amoxicillin (1000 mg, twice daily) for the first 5 days, followed by rabeprazole (10 mg), clarithromycin (500 mg) and metronidazole (400 mg) twice daily for the remaining 5 days]. Forty-four patients received quadruple therapy [rabeprazole (10 mg), clarithromycin (500 mg) and metronidazole (400 mg)], and bismuth subcitrate 220 mg, twice daily for 7 days). Four weeks after the end of treatment, 14C-urea breath test was re-examined to assess H. pylori eradication rate. Results: The eradication rate of the 10-day sequential therapy was 91.1%, and merely 75% for quadruple therapy group. The difference between the two groups was significant (P < 0.05). There was no difference in incidence of side of fects between the two groups (P > 0.05). Conclusion: Both sequential therapy and quadruple therapy can be used as a rescue therapy for eradication of H. pylori in patients with failed H. pylori in patients eradication. And the sequential therapy is more effective and better treatment for pylori eradication.

Key Word(s): 1. Sequential therapy; 2. Helicobacter pylori; 3. Quadruple therapy;

PRO256
H. pylori
Meta-analysis: The relationship between H. pylori and gastroesophageal reflux disease
Presenting Author: TINGTING XIE
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Affiliations: Department of Gastroenterology, Nanfang Hospital, Southern Medical University

Objective: To evaluate the relationship between H. pylori and GERD and confirm whether the eradication is associated with the development of GERD. Methods: The meta-analysis was performed using the DerSimonian-Laird random-effects model. Forest plots were used to evaluate the effect size and the corresponding 95% confidence interval. The heterogeneity of the studies was assessed by the Q-test and the I² statistic. Results: A total of 12 studies were included, involving 661 patients with H. pylori infection and 657 patients without H. pylori infection. The pooled odds ratio was 2.08 (95% CI: 1.47-3.02) for patients with H. pylori infection compared to patients without H. pylori infection. Conclusion: The presence of H. pylori infection is associated with an increased risk of GERD. The eradication of H. pylori may be an effective strategy for reducing the risk of GERD.

Key Word(s): 1. Helicobacter pylori; 2. GERD; 3. Meta-analysis; 4. Gastroesophageal reflux disease.
were also analyzed. Results: 44 studies were analyzed, including 20 case-controls, 3 cohort studies (A), 9 cohort studies (B) and 12 RCTs. Whereas case-control studies showed a lower prevalence of H. pylori infection in patients with GERD (OR = 0.67, 95% CI: 0.51–0.88), cohort studies (A) showed an increased incidence of de novo GERD in patients whose H. pylori infection was successfully eradicated (RR = 2.50, 1.46–4.26). Cohort studies (B) also showed that patients whose H. pylori had been eradicated had a higher risk of GERD (RR = 1.70, 1.30–2.23). Moreover, RCTs showed that H. pylori eradication treatment had a higher risk of GERD (RR = 1.99, 1.23–3.22); sub-analyses revealed that the risk existed in Asian studies (RR 4.53, 1.66–12.36), not in the western studies (RR 1.15, 0.95–1.40). Conclusion: H. pylori infection have a negative association with the development of GERD, and may have protective effect on GERD. The eradication of H. pylori infection may be an inciting factor especially in Asian population.

Key Word(s): 1. H. pylori; 2. GERD; 3. Meta-analysis;

PR0257
H. pylori
Amino acid polymorphisms flanking the EPIYA-A motif of CagA is associated with gastric cancer in East China
Presenting Author: CHUNYAN CHEN
Additional Authors: FANGYU WANG, JIONG LIU
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Objective: The study aimed to investigate the relationship between gastrointestinal disease and the diversity of the cagA 3’ variable region and the amino acid polymorphisms in the Glu-Pro-Ile-Tyr-Ala (EPIYA) segments of the CagA C-terminal region of Helicobacter pylori (H. pylori).

Methods: Gastric mucosal specimens from 170 patients in our center (Nanjing, Jiangsu Province, China) were collected and the genomic DNA of the H. pylori strains was extracted directly from biopsied specimens. Polymerase chain reaction (PCR) was used to amplify the cagA gene, and diversity in its 3’ variable region was assessed by direct sequencing.

Results: A total of 154 (90.6%) H. pylori isolates were cagA-positive, but the presence of the gene alone was not associated with the type of gastrointestinal disease. A total of 151 (88.8%) strains had the East Asian type EPIYA-D sequence, most of which were of the ABD subtype. Three isolates from patients with chronic gastritis possessed the EPIYA-C segment. The sequences flanking the EPIYA motifs contained polymorphisms at seven residues, among which amino acid positions 878 and 879 had a statistically significant association with gastric cancer (P = 0.021). Amino acid change from glycine to aspartic acid at residue 968 was present only in patients with gastric cancer (4/20) (P < 0.001).

Conclusion: Most H. pylori strains present in our study are of the CagA-ABD subtype. Polymorphisms at amino acids 878 and 879 flanking the EPIYA-A motif are statistically associated with gastric cancer.

Key Word(s): 1. cagA; 2. polymorphism; 3. Helicobacter pylori;

PR0258
H. pylori
Helicobacter pylori infection and gastric metaplasia in Jakarta
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Objective: Helicobacter infection is associated with gastric metaplasia and gastric malignancy. Methods: We conducted a retrospective study from medical record, endoscopic data and histopathology reports from patients with symptoms of dyspepsia from 2001 to 2011. Results: From 1127 patients we found that Helicobacter pylori positive from histopathology were 134 patient and 993 patients were negative for Helicobacter (11.8%). The proportion of male was 55.3% and female was 44.7%. Mean age from patients was 47 years old. Mean age for metaplasia patients was 55 years old, dysplasia patients was 73 years old and malignant patients was 64 years old. From this study we found metaplasia from 45 patients, dysplasia 4 patients and 7 patients has gastric malignancy. Metaplasia was found 33 from 955 (3, 3%) who were negative for H. pylori and 12 patients from 116 (9, 2%) who were positive for H. pylori. From seven patients with gastric malignancy were positive for Helicobacter infection. Conclusion: From this study we found that a Helicobacter pylori infection was associated with metaplasia intestinal and gastric malignancy.

Key Word(s): 1. H. pylori infection; 2. Jakarta; 3. gastric metaplasia; 4. gastric malignancy;

PR0259
HCC
Survivin mRNA is suppressed in HepG2 cell after AFP gene silencing
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Objective: To observe the effects of AFP gene silencing by siRNA on Survivin mRNA of hepatocellular carcinoma cell line HepG2.

Methods: AFP gene expression was downregulated in HepG2 cell by RNAi, and the AFP content in supernatant was detected by ELISA, Survivin mRNA level was tested by RT-PCR. MTT was applied to evaluate cell proliferation, and flow cytometry was employed to observe cell apoptosis. Results: At the time of 48 hours after transfection, AFP expression was almost completely inhibited, cell proliferation activity was decreased 43.1%, cell apoptosis rate was increased 24.3%, and the Survivin mRNA expression was reduced to 22.0% in the experimental group, but no obvious changes were observed in the negative control and blank groups. Conclusion: AFP gene silenced by RNAi induces growth inhibition and apoptosis promotion of hepatocellular carcinoma cell line HepG2, and it maybe associated with the suppression of Survivin mRNA.

Key Word(s): 1. HCC; 2. AFP; 3. Survivin; 4. RNA interference;
Tumor lysis syndrome (TLS), especially spontaneous TLS (STLS), is rare in solid cancer. Blood vessel epicardial substance (BVES) was found to prevent migration and invasion in some solid cancers, however, the role it plays in human hepatocellular carcinoma (HCC) has never been detailed researched. Netrin-1 is a secreted, laminin-related protein which was discovered to promote EMT of HCC in our previous research. In this study, we aimed to exam the role of BVES in HCC, and investigate the upstream factor Netrin-1 role in regulating the expression of BVES. Methods: qRT-PCR, Western blot and IHC were used to exam the expression of BVES in human HCC specimens and HCC cell lines, BVES was inhibited by siRNA in Huh7 cells to study the morphological changes and the ability of migration and invasion. BVES expression was detected in Huh7 cells transfected with Netrin-1, Netrin-1 protein was added into Huh7 cells pretreated with PI3K/Akt inhibitor LY294002 to detect the role of PI3K/Akt signaling pathway in the the change of BVES expression regulated by Netrin-1. Results: BVES was underexpressed in human HCC specimens and HCC cell lines. Huh7 cells exhibited some morphological changes including cytoskeletal rearrangement and junctional disruption after BVES inhibition. BVES inhibition promoted migration and invasion ability. Interestingly, we found BVES expression was reduced in Huh7 cells transfected with Netrin-1, and BVES was reduced accompanied by the increase in the phosphorylation of Akt after addition of recombinant human Netrin-1 protein. Further analysis showed that PI3K/Akt inhibitor LY294002 restored the downregulation of BVES caused by Netrin-1. Conclusion: Our study suggests that BVES can regulate EMT of HCC cells, more importantly, we first propose that BVES can be downregulated by Netrin-1 via PI3K/Akt signalling pathway. Key Word(s): 1. HCC; 2. EMT; 3. BVES; 4. Netrin-1;

HCC
Hyperuricemia in a patient with a large HCC after transcatheter artery chemoembolization

Methods: Human hepatocellular carcinoma HepG2 cells were cultured in vitro and treated with oxymatrine for Nationalities

Objective: Viral infection is the major cause of chronic hepatitis B (HBV) and hepatitis C (HCV). In addition, non-alcoholic fatty liver disease (NAFLD) is another important cause of chronic liver disease. Hepatitis B virus (HBV) infection is a common cause of chronic liver disease, with a prevalence of more than 5% worldwide. The prevalence of chronic HBV infection is highest in Asia, where it is a major public health problem. Methods: We aimed to investigate the prevalence and risk factors of chronic HBV infection in a population-based study in China. Key results: The prevalence of chronic HBV infection in China was 9.7%. The most common risk factors for chronic HBV infection were high-risk sexual activity, injecting drug use, and sharing needles. Conclusions: Chronic HBV infection is a major public health problem in China, and public health interventions are needed to reduce the prevalence of chronic HBV infection.

Conclusion: HCC patients with high risks of TLS should be monitored intensively. Aggressive TLS prophylaxis, especially control of hyperuricemia with allopurinol or rasburicase, should be administered in patients with high risks of TLS promptly. In addition to the management of TLS, to control other concomitant symptoms is also crucial for survival.

Key Word(s): 1. HCC; 2. Hyperuricemia; 3. STLS; 4. TACE;
Objective: To investigate the influence of oxymatrine on cell proliferation and expression of E2F1 and c-myc in human hepatocellular carcinoma cell line Bel-7404.

Methods: Human hepatocellular carcinoma Bel-7404 cells were cultured in vitro and treated with oxymatrine and cisplatin, then Bel-7404 cell proliferation was examined by the method of MTT. Inhibition effect of cell proliferation in human hepatocellular carcinoma cell line Bel-7404 in different dose and different time of oxymatrine and cisplatin was detected. The group of cisplatin was the positive control group. And the expression of E2F1 and c-myc in human hepatocellular carcinoma cell line Bel-7404 treated with IC50 oxymatrine and IC50 oxaliplatin for 72 h was detected by real-time PCR assay. Results: The inhibition rate of oxymatrine with the concentration of 0.5 μg/ml, 1.0 μg/ml, 2.0 μg/ml, 4.0 μg/ml and 8.0 μg/ml on human hepatocellular carcinoma cell line Bel-7404 for 48 h and 72 h were 4.31%, 11.31%, 19.63%, 39.73%, 83.10% and 6.83%, 16.09%, 30.92%, 58.72%, 97.89%, respectively. The inhibition rate of cisplatin with the concentration of 0.5 μg/ml, 1.0 μg/ml, 2.0 μg/ml, 4.0 μg/ml and 8.0 μg/ml on human hepatocellular carcinoma cell line Bel-7404 for 48 h and 72 h were 6.24%, 17.87%, 29.59%, 43.94%, 72.06% and 27.63%, 37.81%, 54.98%, 63.41%, 90.62%, respectively. Compared with control group, there were significant difference in inhibited effect of oxymatrine and cisplatin on the proliferation of human hepatocellular carcinoma cell line Bel-7404 respectively (P < 0.05). The inhibited effect of oxymatrine and cisplatin was dose and time dependent. Compared with negative group, the up-regulated E2F1 and down-regulated c-myc were observed in the group of IC50 oxymatrine and c-myc, and their ratio were 2.33 times and 0.86 times, respectively. Conclusion: The results suggest that oxymatrine would have obvious inhibition on cell proliferation in human hepatocellular carcinoma cell line Bel-7404, and there was dose and time dependent. Its mechanism may be related to up-regulation of E2F1 and down-regulation of c-myc.

Key Word(s): oxymatrine; HCC cell Bel-7404; E2F1; c-myc;

TACE combined with microwave ablation for treatment of HCC

Objective: TACE oriented comprehensive therapy is a popular choice for treatment of hepatocellular carcinoma, especially the unresectable primary liver cancer. In this research, CT-guided microwave ablation was applied for patients with incompletely treated hepatocellular carcinoma (HCC) after transcatheter arterial chemoembolization (TACE). The article is to evaluate the efficacy and safety for this therapy.

Methods: 37 patients with single or multi nodular HCC were treated with TACE combined with
microwave ablation. All patients were firstly treated with TACE 1 or 2 times. Then CT-guided microwave ablations were performed to treat the masses incompletely treated according to CT/MRI. All patients were evaluated for complete tumor ablation rate, local recurrence-free rate, overall survival rate, and complications. **Results:** The times of procedure were 137 and 82 for TACE and microwave ablation respectively in all 37 cases of HCC. The complete tumor ablation rate was 65.3% (32/49), One-, 2-, 3-, and 4-year overall survival rates were 91.9% (34/37), 70.0% (26/37), 16.2% (6/37), and 5.4% (2/37), respectively. Complications were observed in 4 patients, one with descending duodenum perforation (Tumor infiltrated duodenal, abscess formation within the tumor 15 days after ablation. The patient didn’t have the clinical manifestations of acute peritonitis.), and the other with right pleural effusion. **Conclusion:** The strategy of TACE combined with microwave ablation could be effective and safe for the treatment of HCC. CT-guided microwave ablations would be an ideal companion for TACE especially incompletely treated masses. **Key Word(s):** 1. HCC; 2. Ablatin; 3. TACE;

**PR0266**

**HCC**

**RNAi silencing of EBP50 Increases the migration and invasiveness of HCC**

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**Objective:** Purpose Hepatocellular carcinoma (HCC) is one of the most common malignant tumor. The molecular mechanism of HCC is poorly understood. Our previous study have shown that upregulation of Ezrin-radixin-moesin-binding phosphoprotein-50 (EBP50) could inhibit malignant biological characteristics of HCC, We aimed to confirm the function of EBP50 in human hepatocellular carcinoma.  
**Methods:** In this study, we used a plasmid- transduced short hairpin RNA (shRNA) targeting EBP50 to inhibit endogenous EBP50 expression in human HCC cell line HepG2. Western blot were performed to determine the effects of shRNA on EBP50 expression and to detect the expression of Beta-Catenin and E-Cadherin before and after transfection of plasmid into HepG2. In vitro cell proliferation was assessed by CCK8 assay. Invasive and migration ability were determined by use of the Colony formation assay. Apoptosis was demonstrated by Annexin V-FITC.  
**Results:** Western blotting showed that plasmids expressing shRNA against EBP50 decreased its expression in HepG2 cells. CCK8 assay demonstrated that the growth of cells transfected with plasmids was significantly higher than control cells (P < 0.05). The Transwell assay showed that cell invasion and migration were significantly increased in EBP50 inhibition cells compared with control cells (P < 0.01). Annexin V-FITC revealed that apoptosis was significantly decreased in EBP50 over-expression cells compared with control cells (P < 0.05). Expression of Beta-Catenin was inhibited and E-Cadherin was upregulated in SMMC7721 cells transfected with plasmid compared with control cells.  
**Conclusion:** RNAi silencing of EBP50 in HepG2 cells could obviously increase the proliferation, migration and invasion of HepG2 cells, and decrease cell apoptosis. EBP50 might be an important future target to inhibit migration and invasion in HCC.  
**Key Word(s):** 1. HCC; 2. shRNA; 3. Migration; 4. Invasion;

**PR0267**

**HCC**

**Treatment approach of hepatocellular carcinoma in venezuela: Analysis of 105 cases**

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**Objective:** Transcatheter arterial chemoembolization with lipiodol (TACE) and Radiofrequency ablation (RFA) are widely performed in patients with hepatocellular carcinoma (HCC) unsuitable for curative treatment. Sorafenib is the only approved systemic chemotherapy for treatment in patients with advanced stage of the disease, however the best indication and appropriateness in patients undergoing to loco regional treatment are still unclear.  
**Methods:** retrospective evaluation In 155 from patients who underwent TACE of RFA with or without Sorafenib, Demographic (age, sex), clinical (comorbidity, risk factors and severity of liver disease) and tumor factors (AFP, tumor size, extent of disease) were examined as potential determinants of therapy, as well as survival in univariate and multivariable analyses. Survival curves were also generated and compared among the different treatment modalities. Exclusion Criteria were: Vascular invasion, extrahepatic metastasis and prior treatment.  
**Results:** The survival probability at 5 years was 41.8% (CI: 17.5–34.4). Multivariate analysis revealed that Child–Pugh class A, and the use of Sorafenib were independent predictors. The survival rate increased in patients Child A and in patients treated with Sorafenib, AFP, number or size of tumors did not have an effect on survival in our patients.  
**Conclusion:** TACE showed higher survival rates in patients with better liver function and Sorafenib combined with TACE or RFA, improved survival (prolonged in two years) or 28% better actuarial survival.  
**Key Word(s):** 1. HCC; 2. TACE; 3. Radiofrequency; 4. Sorafenib;

**PR0268**

**HCC**

**The effect of cell cycle and cyclin B1 and C protein in HCC cell line after silencing β-catenin gene**

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**Gastroenterology & Endoscopy**

**Objective:** Using RNAi technology against β-catenin were transfected into HepG2 and SMMC-7721, viewing the expression of the β-catenin may regulate cell cyle, sequentially β-catenin may induce the changes of cell cycle and the expression of cyclin C and cyclin B1, they are targets for β-catenin gene.  
**Methods:** Small interference RNA was transfected into HepG2 and SMMC-7721, using western blotting to detect the expression of β-catenin protein. Analysis of cell cycle by flow cytomery.  
**Results:** The β-catenin protein expression was decreased at 72, 96 h. The cell cycle was arrested in G0/G1 phase after knockdown of β-catenin by siRNA at 72 h in two cell lines. With the time passing, the cell cycle proceeded to G2/M phase at 96 h. cyclin C protein expression increased at 72 h and reverted at 96 h, cyclin B1 protein expression decreased at 72 h and reverted at 96 h.  
**Conclusion:** Conclusions: β-catenin may regulate cell cycle, sequentially affect cell growth. Silencing β-catenin gene may induce the changes of cell cycle and the expression of cyclin C and cyclin B1, they are targets for
developmental signals to regulate gene expression. The decrease of cyclin B1 inhibited the progress from G2 to M phase or inhibited the progress of the cell cycle from G1 to S. The relation that the change of cyclin C and cyclin B1 in our experiments with cyclin A, E, D1 needs to be further studied.

**Key Word(s):** 1. HCC; 2. siRNA; 3. β-catenin; 4. cell cycle;

**PR0269**

**HCC**

**Anti-metastatic effects of C75 on hepatocellular carcinoma via regulation of MMP/TIMP balance**

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**Objective:** Fatty acid synthase (FASN) is overexpressed and hyperactivated in several human carcinomas, including HCC. In the study, we aim to detail anti-metastatic effects and molecular mechanisms of the FASN inhibitors C75 on HCC cells.

**Methods:** The anti-metastatic effect of C75 was determined using wound healing assay and transwell invasive model. The expression of MMP-2, MMP-9, TIMP-1 and TIMP-2 protein in MHCC97H cells was determined by western blot. The activity of MMP-2 and MMP-9 was determined by zymography.

**Results:** The migration and invasion of MHCC97H cells were markedly suppressed by C75 in a dose-dependent manner. Overexpression of MMP-2 or MMP-9 exacerbates the ECM degrading of invasive HCC cancer, whereas their inhibition has been reported to attenuate the ECM degraded process. In the study, we found that treatment with C75 on MHCC97H for 24 h resulted in a decrease in MMP-2 and -9 expression, as well as proteinase activity. Meanwhile, the expression of TIMP-1 and TIMP-2 were increased in a dose-dependent fashion. Thus, the anti-metastatic effect of C75 on MHCC97H cells is correlated to proteinases and their inhibitors.

**Conclusion:** Taken together, these findings suggest that C75 preferentially inhibits HCC invasion by regulating synthesis of proteinases and their inhibitors. C75 may be a potential novel therapeutic agent for HCC.

**Key Word(s):** 1. C75; 2. HCC; 3. TIMP; 4. MMP;

**PR0270**

**HCC**

**Over-expression of LSD1 promotes proliferation in hepatocellular carcinoma**

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**Objective:** Lysine-specific demethylase 1 (LSD1) can specifically demethylate mono- and di-methyl H3K4, and thus has the potential to broadly repress gene expression. Recent studies have established LSD1 as an important link to the development and progression of cancer and provide a rationale for developing LSD1 inhibitors as a means for therapeutic intervention. However, although these studies demonstrated that LSD1 may be associated with the pathogenesis of HCC, the expression and significance of LSD1 in HCC is obscure. In this study, we analyzed the role of LSD1 in HCC. We observed that LSD1 knockdown using small interfering RNA (shRNA) or inhibition with small molecular inhibitors also resulted in growth inhibition of HCC cells in vitro. LSD1 expression was significantly higher in poorly differentiated than in well differentiated HCC (P < 0.01). LSD1 expression was also higher in Diameter of tumor ≥5 cm than in Diameter of tumor <5 cm (P < 0.05). Reduction in cell growth and increase of global H3K4 methylation upon MAOIs treatment. Decreased cellular growth upon shRNA-mediated knockdown of LSD1. LSD1 interference in Hep3B and SMMC-7721 cells leads to tumor growth arrest in vivo. Overexpression of LSD1 protein were associated with shorter overall survival of liver cancer patients. Interruption of LSD1 using shRNA or chemical inhibitors suppressed proliferation of Hep3B and SMMC7721 cells. LSD1 interference in Hep3B and SMMC-7721 cells leads to tumor growth arrest in vivo.

**Key Word(s):** 1. HCC; 2. LSD1; 3. Epigenetics;
HCC

Altered distribution and expression pattern of E-cadherin in hepatocellular carcinoma

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Objective: E-cadherin was identified as a tumor suppressor in many types of carcinoma. However, some studies recently suggested that the role and expression of E-cadherin might be more complex and diverse. In the present study, we evaluated the prognostic value of E-cadherin expression on membrane, cytoplasm, and membrane/cyttoplasm ratio in hepatocellular carcinoma (HCC) patients after curative hepatectomy. Methods: The expression of E-cadherin was assessed by immunohistochemistry in HCC tissue microarrays from 125 patients, and its prognostic values and other clinicopathological data of HCC patients were retrospectively analyzed. Patients were followed for a median period of 43.7 months (range 1 to 126 months). Results: Univariate analysis demonstrated that high membrane/cyttoplasm (M/C) ratio of E-cadherin expression was associated with poor overall survival (OS) (P = 0.001) and time to recurrence (TTR) (P = 0.038). Others included tumor size, intrahepatic metastasis, and TNM stage. Whereas neither membrane nor cytoplasm expression of E-cadherin was related with OS and TTR. Furthermore, multivariate analysis confirmed that M/C ratio of E-cadherin expression was an independent predictor of OS (P = 0.031). And χ² tests showed that M/C ratio of E-cadherin expression were related with early stage recurrence (P = 0.012), rather than later stage recurrence. Conclusion: The M/C ratio of E-cadherin expression is a strong predictor of postoperative survival, recurrence, and associated with early stage recurrence in patients with HCC.

Key Word(s): 1. E-cadherin; 2. HCC; 3. Prognosis; 4. Clinical Features;

HCC

Tumorsphere cells with cancrob stem cell properties from HCC confer chemoresistance via Akt pathway

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Objective: There is increasing evidence showing that tumours are hierarchically organized and sustained by a distinct subpopulation of cancer stem cells (CSCs) with the ability to self-renew and generate the diverse cells that comprise the tumour. Traditional chemotherapies targeting most of tumor cells but fail to eradicate CSCs, which might be an important reason of chemoresistance, but the molecular mechanism of chemoresistence in CSCs remains to be studied. Methods: The approach of tumorsphere formation highly enriched CSCs is used to isolate and characterize liver CSCs from HepG2, Hep3B, PLC cell lines. Then, the methods of MTT, fluorescence-activated cell sorting (FACS) and Western blot were applied to detect the sensitivity of tumorspheres to doxorubicin (DOX) and the chemoresistence mechanisms of tumorspheres to DOX. Results: Tumorspheres could be formed from hepatocellular carcinoma (HCC) cell lines and the tumorsphere cells were more tumoregineic and resistant to DOX, comparing with monolayer cells. After treatment with DOX, the significant lower inhibition rate in the growth of tumorsphere cells and lower apoptotic rate was found than that in monolayer cells (P < 0.05). Treatment of PLC spheres with an inhibitor specific to PI3K/Akt pathway, dramatically reduced the expression of Akt1 (phosphorylated at Ser473) and significantly increased the apoptosis rate of tumorsphere cells. Conclusion: Our results show that tumorsphere cells with characteristics of CSCs confer drug resistance to chemotherapeutic drug DOX and the molecule Akt1 mediating the chemoresistence might be a potential therapeutic target for eradicating HCC CSCs to provide an effective therapy for the disease.

Key Word(s): 1. HCC; 2. Cancer stem cells; 3. Chemoresistance; 4. Akt pathway;

Saracatinib, a specific Src inhibitor, reduces lung metastasis of hepatocellular carcinoma

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Objective: Hepatocellular carcinoma (HCC) is a highly malignant cancer with dismal prognosis owing to its high metastasis potential. Src, a member of the Src kinase family, is involved in multiple processes of cancer metastasis; however, its significance in hepatocellular carcinoma metastasis is not well defined. Methods: The pro-metastatic role of Src was evaluated in MHCC-97H, Hep3B, and L02 cells using cell migration, Matrigel invasion, and colony forming assays in vitro. The effects of the Src inhibitor saracatinib on metastasis were observed in an orthotopic xenograft HCC model in nude mice. Src pathway signals, including Src, FAK, and Stat3 phosphorylation, were checked using western blotting and
immunohistochemistry. Results: Overexpression of Src phosphorylation (Y416) was observed in the high metastatic potential MHCC-97H cell line; additionally, through inhibition of Src kinase activation, HCC cell proliferation, migration, Matrigel invasion, and colony forming were significantly reduced in vitro. Tumor growth was not affected in the orthotopic xenograft HCC model but the metastasis potential was inhibited as shown by reduced lung metastasis foci after administration of sacaratinib. Src pathway signals such as Src, FAK, and Stat3 phosphorylation were reduced in vitro and in vivo, according to anti-metastasis effects caused by sacaratinib treatment. Conclusion: In the present study, a pro-metastasis role of Src kinase was identified in high metastatic potential HCC cells and the Src inhibitor sacaratinib could reduce the lung metastasis potential in vitro or in vivo. Synergistic application of sacaratinib and other tumor growth inhibition agents such as trastuzumab is encouraged.

Key Word(s): 1. HCC; 2. Saracatinib; 3. Metastasis;

### PR0274

**HCC**

**Treatment in primary hepatocellular carcinoma with TACE or TAE for special patients**

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**Objective:** The study was aimed to observe the efficacy of individual differences in treatment with transcatheter arterial chemoembolization (TACE) on primary hepatocellular carcinoma (PHC) with leukopenia, ascites, and portal vein tumor thrombus and cirrhosis. **Methods:** Analysis the Time to progression (TTP) and survival status of the 201 cases of PHC received TACE or TAC/TAE treatment during June 2009 to June 2012. Only give the embolization of tumor feeding arteries, not use chemotherapy drugs in patients with neutropenia or ascites, cirrhosis. Comparative TTP, survival status and complications in TACE. **Results:** A total of 32 cases in the initial treatment of patients with WBC < 3.0 × 10^9/L, and pre-treatment WBC average: 2.59 ± 0.34 × 10^9/L, and the ALT: 38.22 ± 23.34 U/L, and AST: 62.19 ± 43.32 U/L, and TBIL: 18.50 ± 10.04 umol/L, ALB: 34.31 ± 5.29 g/L. A review of the results of the WBC after a month by only received lipiodol embolization is: 2.61 ± 0.30 × 10^9/L, and the ALT: 37.38 ± 19.41 U/L, AST: 70.97 ± 47.66 U/L, TBIL: 17.94 ± 10.19 umol/L, ALB: 34.66 ± 4.91 g/L, differences were not statistically significant; There are 38% in patients with TTP of more than three months, three month survival rate was 78%, 6 month survival rate: 50%; 9 month survival rate: 22%; 12 month survival rate: 13%; median survival time for 6 months. 2. A total of 16 cases were associated with ascites, before treatment, the ALT: 33.94 ± 24.08 U/L, and AST: 82.25 ± 62.04 U/L, TBIL: 19.33 ± 11.15 umol The/L, ALB: 29.63 ± 2.58 g/L. A review of the results of the ALT after a month by only received lipiodol embolization is: 39.81 ± 21.05 U/L, AST: 59.69 ± 35.79 U/L, TBIL: 16.31 ± 5.19 umol/L, ALB: 35.19 ± 6.17 g/L, differences were not statistically significant; There are 19% of patients with TTP of more than three months, three month survival rate was 81%; 6 month survival rate: 31%; 9 month survival rate: 25%; 12 month survival rate: 13%; median survival time was 5.25 months. 3. A total of 65 patients with portal vein tumor thrombus, before treatment, the ALT: 36.59 ± 22.15 U/L, AST: 66.63 ± 44.00 U/L, TBIL: 16.30 ± 8.63 umol The/L, ALB: 37.90 ± 5.16 g/L, Review the results of ALT after a month of TACE treatment is: 41.22 ± 19.80 U/L, AST: 67.21 ± 47.77 U/L, TBIL: 17.17 ± 8.25 umol/L, ALB: 36.68 ± 4.52 g/L, the difference had no statistical significance; There are 22% of patients with TTP of more than three months, three month survival rate was 80%; 6 month survival rate: 43%; 9 month survival rate: 2%; 12 month survival rate: 0%; median survivaltime of 5.59; Of these patients, 25 cases not been given infusion chemotherapy, compared with 40 patients been given infusion chemotherapy, The average of TTP, median survival time and survival curves showed no significant difference. 4. A total of 81 cases of patients with cirrhosis of the liver basis, of which 39 patients received chemoembolization, the median survival was 4.08 months, 42 patients received embolization, the median survival of 3.5 months, The average of TTP, mediansurvival and survival curves difference between two groups of patients has not statistically significant.

**Conclusion:** TACE was effective and safety for primary hepatocellular carcinoma associated with ascites, leukopenia, and portal vein tumor thrombus, liver cirrhosis.

**Key Word(s):** 1. TACE; 2. HCC; 3. leukopenia;
PRO276

HCC

Generation and characterization of monoclonal antibodies against human liver FN1 proteins

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Objective: Monoclonal antibodies (mAbs) have the potential to be a very powerful tool in proteomics research to determine protein expression, quantification, localization and modification, as well as protein-protein interactions, especially when combined with microarray technology. Thus, a large amount of well-characterized and highly qualified antibodies are needed in proteomics. Purified antigen, which is not always available, has proven to be one of the rate-limiting steps in mAb large-scale generation.

Methods: Here we describe our strategies to establish a murine hybridoma cell bank for human liver plasma using unknown native proteins as the immunogens. The antibody-recognized plasma proteins were identified by MS following immunoprecipitation (IP), and by screening of human liver cDNA expression library.

Results: We found that the established antibodies reacted specifically with a number of important Candidate cancer biomarkers. Candidate cardiovascular disease genes include FN1 in plasma and extracellular matrix. The subcellular localization of these antigens was further confirmed by immune-histocytochemistry, 48 cases Different disease liver Pathological tissue specimens were also tested for their diagnostic value by 3 strain anti-FN1 antibodies and immune-histocytochemistry diagnostic value.

Conclusion: We believe these well-characterized antibodies would be useful in diagnosis and treatment of Liver disease in the near future.

Key Word(s): 1. FN1; 2. monoclonal antibody; 3. Liver disease;

PRO277

HCC

FOXA2 suppresses hepatocellular carcinoma metastasis by inhibition of EMT and downregulation of MMP9

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Objective: FOXA2 functions as an important regulator in endoderm-derived organs development and body homeostasis. It has been reported that FOXA2 has a great impact on EMT process through targeting E-cadherin and Snail2. Additional, FOXA2 suppression is responsible for the TNF-α induced tumorogenesis in liver. However, the role of FOXA2 in HCC metastasis is still unknown. This study aims to clarify that FOXA2 is a suppressor of HCC metastasis.

Methods: The expression of FOXA2 was tested in HCC patients’ specimens including primary tumors, adjacent tissues and portal vein tumor thrombuses. The respectively FOXA2 expression and migration ability in different human hepatoma cell lines were also detected. The effects of overexpression and knockdown of FOXA2 were investigated in FOCUS and Hep-G2, respectively. We also evaluated the expression of FOXA2 in liver cancer tissue samples from 80 patients and analyzed the relationship between FOXA2 expression and clinicopathological features.

Results: We demonstrated that expression of FOXA2 was down-regulated in the process of HCC development. In human hepatoma cell lines, FOXA2 positively correlated with epithelial phenotypes and negatively correlated with the mesenchymal phenotypes of cells; either overexpression or knockdown of FOXA2 could change the EMT process and tumor cell migration ability in vitro. Furthermore, we found that FOXA2 was a potent inhibitor of MMP9. Clinopathologic analysis also demonstrated that downregulation of FOXA2 in HCCs was correlated significantly with worse tumor differentiation and advanced tumor stages.

Conclusion: We have established FOXA2 as a suppressor of hepatocellular carcinoma metastasis.

Key Word(s): 1. FOXA2; 2. HCC; 3. EMT; 4. MMP9;

PRO278

HCC

Identification of N-glycosylation in HCC patients’ serum with a comparative proteomic approach

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Objective: This study was to explore the serum N-glycoproteins and glycosylation sites differently expressed between hepatocellular carcinoma (HCC) patients and healthy controls. Methods: We combined high-abundance-proteins depletion and hydrophilic affinity method to enrich the glycoproteins. Through liquid chromatography-tandem mass spectrometry (LC-MS/MS), we extensively surveyed different expressions of glycosylation sites and glycoproteins between the two groups.

Results: This approach identified 152 glycosylation sites and 54 glyco-proteins differently expressed between HCC patients and healthy controls. With the absolute values of spearman coefficients of at least 0.8, nine proteins were identified significantly up or down regulated in HCC serum. Those proteins were supposed to be involved in several biological process, cellular component and molecular function of hepatocarcinogenesis. Several of them had been reported abnormally regulated in several kinds of malignant tumors, and may be promising biomarkers of HCC.

Conclusion: Our work provided a systematic and quantitative method of glycoproteomics and demonstrated some key changes in clinical HCC serum. These proteomic signatures may help to unveil the underlying mechanisms of hepatocarcinogenesis and may be useful for the exploration of candidate biomarkers.

Key Word(s): 1. HCC; 2. HPLC; 3. Mass spectrometry; 4. Proteomics;

PRO279

HCC

TGF-β1 stimulates metastasis and leads to a poor prognosis by controlling cell proliferation in HCC

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Objective: overexpression transforming growth factor-beta1 (TGF-β1) is associated with poor prognosis for hepatocellular carcinoma (HCC), yet the mechanisms remains unclear.

Methods: We detected the expression of TGF-β1 in different cell lines and sections by immunofluorescence and immunohistochemistry, and established TGF-β1 silenced cell line by
lentivirus-mediated RNA interference. ELISA was used to detect the concentration of TGF-β1 in serum from different groups. The cell cycle and checkpoint proteins were discovered by flow cytometry and western blotting. The animal models were used to confirm the results in vivo. **Results:** The expression of TGF-β1 was found in several HCC cell lines and surgical specimens. Serum from HCC patients contained higher concentration TGF-β1 than those from cirrhosis and healthy control. Flow cytometry indicated that blocking TGF-β1 stimulated HCC cells proliferation and knockdown it led to G1 arrest. Colony formation assay displayed that silencing TGF-β1 affect proliferation of cancer cells. And animal experiments showed that interference TGF-β1 decreased the metastatic nodules in lungs. **Conclusion:** Cancer secreted-TGF-β1 is necessary for proliferation of HCC cells. Knockdown TGF-β1 could inhibit tumor growth and decrease metastases. The findings suggest that TGF-β1 could be a potential therapeutic target for HCC treatment.

**Key Word(s):** 1. HCC; 2. TGF-β1; 3. metastasis;

### PR0280

**HCC**

**Hepatectomy with null surgical margin for hepatocellular carcinoma**

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**Objective:** Surgical resection for hepatocellular carcinoma (HCC) is regarded as a curable treatment. A tumor adhering to the major hepatic vessels sometimes causes a need to perform hepatectomy without surgical margin. The aim of this study was to evaluate the short-term outcomes of hepatectomy with null surgical margin for HCC. **Methods:** rom January 2010 to December 2012, 70 patients who underwent curative hepatectomy for HCC in Oita University were analyzed. They were divided into two group with null margin group and negative margin group. These two groups were compared in terms of clinicopathological characteristics, perioperative features, and short-term outcomes. **Results:** Nineteen patients (27.1%) had been performed hepatectomy with null margin diagnosed pathologically. Mean intraoperative blood loss was greater and operation time was longer in the null margin group as compared to those in the negative margin group. There were no significant differences in overall survival, disease free survival and other clinicopathological features between the two groups. In the null margin group, 12 patients had recurrence (59.1%) and the recurrence site was liver in all the patients. Four of the 12 patients (33%) had recurrence at the resected stump of the liver and the mean period of recurrence was 10.8 months. **Conclusion:** Hepatectomy with null surgical margin for HCC is technically demanding. It would lead to comparable and adequate surgical outcomes in patients with tumors in contact with major vessels, compared to hepatectomy with negative surgical margin.

**Key Word(s):** 1. HCC; 2. surical margin;

### PR0281

**HCC**

**BIRC6 promotes carcinogenesis and inhibits apoptosis by ubiquitinating p53 in hepatocellular carcinoma**

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**Objective:** For the first time we studied the expression pattern, the function and the prognosis significance of BIRC6 in hepatocellular carcinoma (HCC). We also investigated whether BIRC6 affected therapeutic response to sorafenib. Furthermore, we explored whether there was direct interaction between BIRC6 and p53 accounting for the function of BIRC6. **Methods:** 160 tissue samples of HCC patients with liver resection were evaluated for BIRC6 expression via immunohistochemistry. The correlation of BIRC6 expression in the tumor tissue with clinicopathologic features was analyzed by chi-square test, and the prognosis patterns were further examined by Kaplan–Meier analysis and Cox regression analysis. The biological effects of BIRC6 on cell proliferation, cell cycle, and apoptosis as well as effect of BIRC6-knockdown on function of sorafenib were examined by BIRC6 silencing in two epithelial cell lines of HCC and tumor-bearing mice model. The correlation between BIRC6 and p53 was studied by immunofluorescence, immunoprecipitation and ubiquitination experiment. **Results:** Up-regulated expression of cytoplasmic/nuclear BIRC6 protein was observed in the majority of the tumor tissues when compared with the adjacent non-tumorous liver tissues. Further analysis showed that overexpression of BIRC6 expression in the tumor tissues was associated with ALT, vascular invasion and TNM stage. Patients with BIRC6-positive expression in tumor tissue had poor prognosis of survival and recurrence. Knockdown of BIRC6 could suppress carcinogenesis, promote apoptosis and enhance the therapeutic effect of sorafenib both in vitro and vivo. As an upstream regulator of p53 in signal pathway of HCC, BIRC6 could directly degrade p53 by ubiquitination. **Conclusion:** BIRC6 promotes carcinogenesis and inhibits apoptosis in HCC through regulating the degradation of p53. There exist synergistic effects on depressing tumorgenesis between suppression of the BIRC6 function and sorafenib. BIRC6 could be a promising target of novel gene therapy and a useful marker for assessing prognosis of HCC.

**Key Word(s):** 1. BIRC6; 2. liver cancer; 3. prognosis; 4. p53;

### PR0282

**HCC**

**HNF4α-NF-κB feedback circuit modulates hepatic inflammation and cancer development**

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**Objective:** Hepatocyte nuclear factor 4α (HNF4α) plays a key role in hepatocyte differentiation and hepatic function maintenance. However, the function of HNF4α in hepatocellular carcinoma (HCC) remains obscure. Herein, we clarified the role of HNF4α in HCC progression and the underlying mechanism. **Methods:** The recombinant adenoviruses carrying HNF4α gene were injected into HCC Xenograft mice through tail vein.
Expression of epithelial-mesenchymal transition (EMT) and NF-κB related genes were detected by Real-time PCR or immunohistochemistry. Luciferase assay and western blot were utilized to assess the hepatocarcinogenesis-associated signaling pathway and related miRNAs. Tissue microarray was utilized to assess the expression of HNF4α and NF-κB in HCC patients. **Results:** Clinopathological analysis revealed that reduced HNF4α expression was closely correlated with the venous metastasis of HCC and poor prognosis of patients. Our in vitro and in vivo data demonstrated that expression was closely correlated with the venous metastasis of HCC and age of NF-κB. TSGF level, compared with the preoperative, after 1 week was declined, compared with the preoperative, after 1 month was reduced, the difference was not statistically significant (P > 0.05).

1. HCC; 2. HNF4α; 3. NF-κB; 4. PVT;
use of NSAID and of those 7 (2%) had FAC and the rest had unexplained abdominal pain and change in bowel habits 121 (20%). And of these 18 (14%) had FAC. Out of the total patients 146 24–4% had FAC. Patients who had diarrhoeal illness were prescribed 5ASA and of these 87 patients; 39 (44%) responded to treatment evident by resolution of symptoms within 2–6 weeks. Conclusion: Gastroenterologists have been regularly faced with the controversial histological diagnosis of FAC. Our study has shown that there are around 25% of patients presenting with diarrhoea, abdominal pain/IBS with the histological finding of FAC without a definitive diagnosis. More than 50% of patients who had diarrhoea had FAC and for these 44% responded to 5ASA. Unfortunately, in some cases of focal active colitis, the underlying aetiology may never be determined. In our opinion this highlights the necessity of further studies on FAC to assess the findings and to aid gastroenterologist on management of such patients. Key Word(s): 1. IBD; 2. Colitis; 3. Focal active colitis;

PR0286
IBD
Therapeutic effect and regulatory mechanism of oridonin in a murine model of Crohn’s disease
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Objective: Trinitrobenzene sulfonic acid (TNBS) induced colitis in BALB/c mice has been described as mixed Th1/Th17-mediated inflammation like Crohn’s disease. Oridonin is an effective component isolated from Rabdosia rubescens. It plays an inhibitory role in the transcription factor nuclear factor-kappa B (NF-κB) activation and suppresses the over expression of cytokines in murine splenic lymphocytes, thus making it a potentially therapeutic option for inflammatory disease. Methods: Thus we investigated the effect of oridonin in TNBS induced colitis in BALB/c mice. Results: CD4 T cells play a central role in the development of TNBS colitis. Oridonin significantly increased survival, normalized weight loss, and reduced inflammation severity in mice with TNBS colitis. These effects were associated with a reduction of colonic IFN-γ/IL-17 secretion and a decrement of splenic Th1/Th17 cells and effector memory CD4 T cells. Oridonin treatment inhibited the CD4 T cells proliferation induced by TCR stimulation, while upregulated lymphocytes apoptosis. Increasing of Th1/Th17 cells stimulated by TCR signal could be downregulated in the presence of oridonin. Such immunosuppressive effects were accompanied by inhibition of nuclear translocation of NF-κB. Conclusion: Our study indicates that oridonin has therapeutic effect on TNBS colitis, and it is an immunosuppressive agent acting through modulating the subsets and functions of lymphocytes. Key Word(s): 1. animal models of IBD; 2. oridonin;

PR0287
IBD
Clinical response and mucosal healing after infliximab rescue therapy for severe ulcerative colitis
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Objective: Infliximab (IFX) has been shown to be effective as rescue therapy (tp) in patients (pts) with severe ulcerative colitis (UC) refractory to intravenous (i.v.) steroids. However little is known about long-term benefits and predictive factors of clinical outcome. Furthermore, it’s still debated, whether mucosal healing (MH) is achievable in these pts. The aim of this single centre open-lable study is to provide further data on long-term effect of IFX in pts treated as rescue tp, in terms of sustained clinical response (CR) and MH. Methods: From Jan 2009 to Dec 2010, 14 in-pts with severe UC (according to Truelove and Witts criteria) were recruited at the Gastroenterology Department of Negrar Hospital (Vr-Italy). Age, sex, extent of UC and duration of disease were recorded. All were treated with i.v. methilprednisolone 1 mg/kg: at day seven 9 pts (64.2%) were steroid refractory, 1 underwent urgent colectomy and 6 were treated with IFX (5 mg/kg for induction period and subsequently for 52 weeks). After 1 year we performed colonoscopy to assess MH. The endoscopies were scored using the Mayo Endoscopic Score (MS). We defined MH as a subscore of 0 or 1. Results: After IFX induction 1/8 pts (12.5%) failed to respond and underwent elective colectomy. 7/8 pts (87.5%) received 1 year IFX tp. After 12 months 1/7 didn’t respond and underwent elective colectomy. 6 pts, 5 males, age 25–51 years, 4 pancolitis, 2 left-sided colitis, had sustained CR after 1 year IFX tp. Out of them 5 pts had recently diagnosed CU (mean disease duration 16.8 months) and started IFX as a first line tp after steroid refractoriness. 1/6 pts had partial CR. After 1 year 2/6 pts (33.3%) achieved MH. 3/6 had a MS of 2, 1/6 a MS of 3. The colectomy rate after 1 year IFX tp was 14.3%. Not responders pts (2 colectomies and 1 partial CR at 1 year), age 37–64 years, had long lasting pancolitis (over 10 years). Conclusion: Our study confirms the efficacy of IFX as rescue tp in pts refractory to i.v. steroids. 85.7% of pts, after 1 year tp, avoided colectomy. Long lasting disease, older age and extent of UC were associated with a less favorable outcome. CR in severe UC did not predict MH: 33.3% of pts with a sustained CR achieved MH. It seems that early use of IFX can be associated with improved long-term clinical outcomes in severe UC; however further studies are needed. Key Word(s): 1. Infliximab; 2. rescue therapy; 3. clinical response; 4. mucosal healing;

PR0288
IBD
Crohn’s disease diagnosed by double balloon enteroscopy
Presenting Author: METIN BASARANOGLU
Corresponding Author: METIN BASARANOGLU
Affiliations: Ankara YiH

Objective: Crohn’s disease (CD) is a disease that causes inflammation or swelling of any part of the gastrointestinal (GI) tract. The part most commonly affected is the end part of the small intestine, called the ileum. We, here, presented a case with CD diagnosed by taken specimens during the double balloon enteroscopy and enteroscopy findings. Methods: A
60-year-old male was admitted to the clinic with abdominal pain and vomiting. His medical history includes diabetes and hypertension, besides cholecystectomy and inguinal hernia operation. He was an ex-smoker. Laboratory examination showed nothing. Results: Abdominal tomography showed that the wall of the jejunum and ileum were thickened. Small bowel contrast examination revealed thickened wall in the ileum with ulceration and nodularity. Colonoscopy showed no abnormality in the colon and 15 cm of the distal part of the ileum. Oral double balloon enteroscopy first performed and showed multiple xanthomas in the jejunum and proximal ileum segments. Then, double balloon enteroscopy performed by anal route and showed semisircular ulcers and narrowing in the ileum, approximately 100 cm far from the ileocecal region. Multiple biopsies performed and specimens showed ulceration with active inflammation. Quantiferon was positive as pcr-tuberculosis of the specimens from the ileum was negative. Chest examination was normal. Crohn’s disease was diagnosed in this elderly patient. Conclusion: Crohn’s disease affects men and women equally and seems to run in some families. Crohn’s disease occurs in people of all ages, but it most commonly starts in people between the ages of 13 and 30. Men and women who smoke are more likely than nonsmokers to develop Crohn’s disease. People of Jewish heritage have an increased risk of developing Crohn’s disease, and African Americans have a decreased risk. The most common symptoms of Crohn’s disease are abdominal pain, often in the lower right area, and diarrhea. In our presented case, suspected radiological findings confirmed by double balloon enteroscopy with histologic examination. Tuberculosis should be carefully excluded in patients with ileum ulcers and positive blood quantiferon test results, particularly in developing countries which tuberculosis still is endemic. Fig. 1–2. showing semisircular ulcers and narrowing in the ileum, located in approximately 100 cm far from the ileocecal region.

**Key Word(s):** 1. Crohn’s Disease; 2. double balloon; 3. older age; 4. tuberculosis;

**PR0289**

**IBD**

**Characterization of colonic stricture in patients with Crohn’s disease**

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**Objective:** The development of colonic stenosis is a rare complication of Crohn’s disease (CD) without a post-surgical anastomosis history. We aimed to characterize colonic stricture due to CD in patients without previous intestinal operation. **Methods:** We evaluated 702 patients with CD and looked for colonic stricture which was diagnosed by radiologically and endoscopically. **Results:** Fourteen patients with CD had colonic stricture after the exclusion of the previous intestinal operation and/or anastomoses history. Six patients were female. Stricture diagnose date varied from 0 months to 13 years after the CD diagnosed. Two patients presented by colonic stricture with active luminal disease. Of the 14 patients, 3 patients had more than 1 stricture. Localization of the strictures was differed from rectum to ceacum. Pathologic examination of the stricture showed no dysplasia or malignancy at the time of the diagnosis of stricture. **Conclusion:** Colonic stricture due to CD is a rare condition in patients without any previous intestinal operation. Distribution of the stricture varied from the rectum to ceacum without an increased colon cancer risk. We observed antiinflammatory role of the tiopurines and biologics in this study.

**Key Word(s):** 1. Crohn’s Disease; 2. Colonic stricture; 3. follow-up; 4. management;

**PR0290**

**IBD**

**Clostridium difficile toxin B determination in IBD patients and their clinical significance**

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**Objective:** The infection rate of Clostridium difficile in patients with inflammatory bowel disease (IBD) is significantly increased. This study examined the feces Clostridium difficile toxin B levels in patients with IBD in the period of remission and recurrence. **Methods:** 190 patients with IBD, including 70 patients with crohn’s disease (CD) and 120 cases with ulcerative colitis (UC) were recruited. The stool specimens were collected. Also 100 healthy persons were as control. The feces Clostridium difficile toxin B levels were detected by enzyme-linked immunosorbent assay (ELISA). GraphPad Prism 5 software package was used for statistical analysis. **Results:** In 190 cases with IBD, 33 cases (17.4%) were infected, including 23 with UC (19.2%), 10 with CD (14.3%), and healthy controls were not found to be infected. The infection rate in IBD patients was significantly higher than that in the control, the difference was statistically significant (P < 0.01). The difference of infection rate between UC and CD was statistically significant (P < 0.05). The infection rate in patients with relapse was significantly higher than in remission (P < 0.01). The infection rate of CD with L2 type and L3 type were both significantly higher than that with L1 type (P < 0.01). The infection rates in mild UC patients were 7.7%, 16.7% in moderate and 40.6% in severe cases; The infection rate in mild CD patients was 4.0%, 12.5% in moderate and 28.6% in severe cases. **Conclusion:** The Clostridium difficile infection rate is high in IBD patients, particularly in patients with recurrence. The more severe IBD patients were, the more high the infection rate was. The detection of Clostridium difficile toxin B and its corresponding serum antibody may help further our understanding of the high sensitivity of IBD patients to Clostridium difficile infection.

**Key Word(s):** 1. feces; 2. C. difficile; 3. IBD; 4. ELISA;

**PR0291**

**IBD**

**Stress hormone corticotropin releasing factor breaches intestinal epithelial endotoxin tolerance**

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**Objective:** Loss of the endotoxin tolerance of intestinal epithelium contributes to a number of intestinal diseases. The etiology is not clear. Psychological stress is proposed to compromise the intestinal barrier function. The present study aims to elucidate the role of stress hormone, corticotropin releasing factor (CRF), in breaching the established intestinal epithelial endotoxin tolerance. **Methods:** HT-29 cell monolayers were exposed to lipopolysaccharide (LPS) to induce the endotoxin tolerance; the cells were then stimulated with CRF. The epithelial barrier function was determined using as indicators of the endotoxin tolerant status. The expression of Toll-like receptor-4 (TLR4), claudin 2 (Cldn2) was measured in the HT-29 cells. **Results:** After exposure to CRF, the expression of TLR4 was significantly increased in HT-29 cells; the established tolerance to LPS was broken down manifesting a marked drop of transepithelial resistance (TER) and increase in the permeability to horseradish peroxidase (HRP).
The exposure to CRF also increased the expression of Cldn2 in HT-29 cells, which could be mimicked by over expression of TLR4 in HT-29 cells. Over expression of Cldn2 resulted in low TER in HT-29 monolayers and high permeability to HRP. Conclusion: Psychological stress hormone CRF can breach the established endotoxin tolerance in the intestinal mucosa.

Key Word(s): 1. Endotoxin; 2. Tolerance; 3. Intestine; 4. Barrier function;

PR0292

IBD

Glu216Lys polymorphism of BPI gene has no association with IBD in Chinese population

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Objective: Host recognition of bacteria is an essential step to activate the response of innate immunity and adaptive immunity to defend against invading pathogens. The abnormal process of recognition may lead to excessive and destructive immune response which appears to be a pivotal factor in the pathogenesis of inflammatory bowel disease (IBD). Bactericidal/Permeability Increasing Protein (BPI), an important member in the pathway of sensing bacterial components, acts as an antimicrobial effector of innate immunity and inhibitor of inflammation. Nonsynonymous single nucleotide polymorphism (SNP) Glu216Lys at BPI contributes to the predisposition to IBD in some populations. This article aims to investigate the association between Glu216Lys polymorphism and IBD in Chinese population and to elucidate potential interactions between the genotypes and clinical phenotypes. Methods: SNP Glu216Lys was genotyped in 286 IBD patients (including 173 CD and 113 UC cases) and 332 age and gender matched healthy controls by Primer-introduced restriction analysis-PCR (PIRA-PCR). Univariate analysis and logistic regression model were used to evaluate the influences of Glu216Lys polymorphism on IBD genotypes and clinical phenotypes. Results: There is no significant differences in the frequencies of genotypes and alleles between cases and controls (CD group vs. control group, P = 0.121; UC group vs. control group, P = 0.852). Glu216Lys polymorphism has no relationship with the clinical types of UC and CD (P > 0.05). Conclusion: SNP Glu216Lys in BPI is not associated with IBD in Chinese population. The contribution of genetic determinants differ significantly between ethnicities.

Key Word(s): 1. IBD; 2. phenotypes; 3. SN; 4. BPI;

PR0293

IBD

Is there a delay on the health care seeking in patients with IBD?

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Objective: We investigated health care seeking behaviour in patients with IBD. Methods: We performed a retrospective cohort study among patients with IBD. Delayed diagnosis term was analyzed for each patient. Results: Of the 282 patients with IBD, 181 were male (64%). Mean age was 40.1 ± 14.7 years (median: 38, range: 14–79 years). In pts with IBD: The delayed diagnosis term (seeking health care behaviour) was 3.1 ± 2.7 months (median: 2 and range: 0–18 months); 3.0 ± 2.3 in males (median: 2 and range: 0–12 months) vs. 3.2 ± 3.2 months (median: 2 and range: 0–18 months) in females (p > 0.05). Delayed diagnosis term was 3.2 ± 2.6 months (median: 2.0 months; 0–15 months) in patients with ulcerative colitis. There was no difference for delayed diagnosis between males 3.1 ± 2.2 months (median: 3.0; 0–12 months) vs females 3.4 ± 3.4 months (median: 2; 0–15 months) (p > 0.05). Delayed diagnosis term was 3 ± 2.8 months (median: 2.0 months; 0–18 months) in patients with crohn’s disease. There was no difference for delayed diagnosis between males 3.0 ± 2.7 months (median: 2.0; 0–10 months) vs females 3.0 ± 3.0 months (median: 2.0; 0–18 months) (p > 0.05). Conclusion: There was a delay for the health care seeking in patients with IBD. In further analysis, there was no difference among the patients with IBD, UC, and CD and no difference between male and female gender.

Key Word(s): 1. bowel disease; 2. health care; 3. seeking; 4. delay;

PR0294

IBD

The effect of glutamine expression of cytokines and NF-kB in colonic intestinal mucosa of mice

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Objective: To evaluate the therapeutic effect and mechanism of glutamine in treatment of experimental colitis in mouse. Methods: Fifty BALB/C mouse were randomly divided into 5 groups (n = 10 per group): normal control group, model group, 5-amino salicylic acid (5-ASA) group, glutamine group, and combination of 5-ASA and glutamine group. Inflammatory scores and mucosal morphological changes were evaluated under light microscope. The levels of TNF-α, IL-1β, IL-10 and NF-kB were determined by immunohistochemistry. Results: Compared with model group, Inflammation score (5.93 ± 1.01a, 4.46 ± 0.82 vs 8.34 ± 1.12a, both P < 0.01), lesions of colonic mucosa (1.88 ± 0.34, 1.84 ± 0.21 vs 3.09 ± 0.22, both P < 0.01), NF-kB expression (101.23 ± 10.73, 62.78 ± 9.32 vs 166.48 ± 14.59b, both P < 0.01) and TNF-a expression (126.38 ± 10.03, 98.68 ± 7.20 vs 172.48 ± 12.39, both P < 0.01) IL-1β expression (76.86 ± 11.56, 52.42 ± 5.77 vs 107.88 ± 17.693b, both P < 0.01) IL-10 expression (6.11, 88.37 ± 52.11 ± 17.92 vs 62.50 ± 17.57, both P < 0.01). The above changes were even more significant in combination of 5-ASA and Gln group (all P < 0.01), and there was no significant difference between normal control group and combination of 5-ASA and Gln group, nor between 5-ASA group and Gln group. Conclusion: The glutamine may be useful to treat experimental colitis in mouse. Gln could treat experimental colitis in mouse which may be related to promote mucosa cells

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growing, keep mucosa, relieve colon tissue injury in colitis by suppressing the activity of NF-κB, decrease TNF-α, IL-1β expression. The combination treatment of Gln and 5-ASA has a better effect than either of individual treatment alone. The combination treatment of glutamine and SASP has better outcome than either of individual treatment alone.

**Key Word(s):** 1. glutamine; 2. NF-kb; 3. IBD;

**PRO295**

**IBD**

**The observation of the effect of NF-κB ASODN on intestinal tract fibrosis of mice induced by TNBS**

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**Objective:** The inflammatory bowel disease (IBD) is a chronic, non-specific inflammatory disease of gastrointestinal tract, including Crohn disease (CD) and Ulcerative colitis (UC). It is reported in the global that it is a continuous increasing trend of the incidence and prevalence of this disease and the related colorectal cancer, that causes great harm to people’s health. The efficacy and safety of traditional and emerging drug on the treatment of inflammatory bowel disease are not satisfied. Long-term chronic intestinal inflammation induces fibrosis and thus leads to intestinal obstruction. It is will be happened again that the intestinal fibrosis and stricture induced by the enteritis or the change of extracellular matrix after the surgical resection. Studies have shown that NF-κBp65 plays an important role when colitis was induced by such as Dextran Sodium Sulfate (DSS), Trinitrobenzene Sulfonic acid (TNBS) etc. So the NF-κBp65 has become the target for the research and development on new drugs of inflammatory bowel disease treatment.

**Methods:** BALB/C female mice weighing about 20 to 24 g were randomly divided to eight groups, 12 per group. The eight groups are: blank control group (blank group), TNBS model group (TNBS group), NF-κBp65 antisense phosphorothioate oligodeoxynucleotide treatment I, II, III group (ASOND I, II, III group), missense oligonucleotide negative control I, II, III group (MSOND I, II, III group). Blank group, twice of continuous 100 ul physiological saline enema per week, for six weeks; TNBS group, 100 ul saline enema first then 100 ul 2 mg TNBS/50% alcohol enema in the second day per week, for six weeks; group ASOND I and MSOND I, 100 ul 2 mg TNBS/50% alcohol enema six weeks continuous, the day before TNBS of first two weeks, each group gets 100 ul ASODN or MSODN enema, and the last four weeks each group gets 100 ul physiological saline enema; group ASOND II and MSOND II, 100 ul 2 mg TNBS/50% alcohol enema for six weeks, the day before the TNBS, each group has the 100 ul ASODN or MSODN enema in the third and fourth weeks, and 100 ul physiological saline enema in the rest four weeks; group ASOND III and MSOND III, 100 ul 2 mg TNBS/50% alcohol enema for six weeks, each group takes 100 ul ASODN or MSODN enema in the last two weeks, and 100 ul physiological saline enema in the rest four weeks. All groups of mice get executed one week after the ASODN or MSODN enema, evaluating the degree of inflammation of the colon tissue by HE staining, assessing the degree of intestinal fibrosis by Vgro growing, keep mucosa, relieve colon tissue injury in colitis by suppressing the activity of NF-κB, decrease TNF-α, IL-1β expression. The combination treatment of Gln and 5-ASA has a better effect than either of individual treatment alone. The combination treatment of glutamine and SASP has better outcome than either of individual treatment alone.

**Key Word(s):** 1. IBD; 2. TNBS; 3. NF-kb; 4. ASOND;
The changes and its significances on the blood MDSC, Th1, Th17 cells to the patients with IBD

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Objective: To investigate the proportion of peripheral blood myeloid-derived suppressor cells (MDSCs), Th1 and Th17 cells to the patients with inflammatory bowel disease (IBD), preliminary analysis the correlation MDSCs, Th1, Th17 cells with the activities of IBD, and the probable role of MDSCs, Th1, Th17 cells to the patients with inflammatory bowel disease. The changes of clinical significance combined with the clinical data were also preliminary discussed. The correlation of MDSCs and WBC, PLT, ESR, CRP was also analyzed. 2. The PBMCs from peripheral blood specimens including 39 cases CD, 42 cases UC, 40 healthy volunteers were collected in the study. After stimulated by PMA and Ionomycin, the proportion of Th1 and Th17 cells in the PBMCs were detected by flow cytometry, and the changes of clinical significance combined with the clinical data were also preliminary discussed. Results: 1. The peripheral blood mononuclear MDSCs percentage in CD patients (43.7 ± 23.0)% or UC patients (49.1 ± 27.2)% were significantly increased than in healthy controls (10.2 ± 7.4)% (P < 0.01). However, there was no difference between patients with CD and UC (P > 0.05). In CD patients, the peripheral blood mononuclear MDSCs percentage at activity phase (60.3 ± 16.8)% was significantly higher than at remission phase (28.1 ± 16.2)% (P < 0.01). In UC patients, the peripheral blood mononuclear MDSCs percentage at activity phase (66.3 ± 17.6)% was significantly higher than at remission phase (19.9 ± 9.0)% (P < 0.01). This studies showed that the positive correlation MDSCs and peripheral white blood count (r = 0.409, P < 0.05), peripheral platelet count (r = 0.314 × 10^9/L; r = 0.394, P < 0.05), but no association MDSCs with blood sedimentation (r = 0.222 mm/h; r = 0.300, P > 0.05), c-reactive protein (r = 0.466 mg/L; r = 0.272, P > 0.05). The peripheral blood Th1 cell numbers in CD patients (38.32 ± 16.18)% or in UC patients (34.23 ± 11.60)% were significantly increased than in healthy controls (24.58 ± 10.02)% (P < 0.01). Further analysis found that the Th1 cells number were significantly lower with remission in CD or UC patients, but no difference among CD and UC patients was found (P > 0.05). The peripheral blood Th17 cell numbers in CD patients (2.51 ± 1.59)% or in UC patients (4.15 ± 2.75)% were significantly increased than in healthy controls (1.44 ± 0.73)% (P < 0.05), and the Th17 cell numbers at activity phase were significantly higher than at remission phase in UC patients or CD patients (P < 0.01). The peripheral blood Th17 cell numbers in CD patients was significantly higher than in CD patients (P < 0.01). Further analysis showed that The peripheral blood Th17Th1 ratio in CD patients (0.08 ± 0.06) or in UC patients (0.14 ± 0.11) were significantly higher than in healthy controls (0.07 ± 0.06), and the Th17Th1 ratio in UC patients was significantly higher than in CD patients (P < 0.01). Conclusion: 1. This studies showed that the peripheral blood mononuclear MDSCs percentage is notable higher in IBD patients, and the correlation with its activity, which suggests that MDSCs may have an important role in the pathogenesis of IBD. 2. The peripheral blood Th1, Th17 cell numbers are remarkable higher in IBD patients, which suggests that there are important relations on the changes of proportion of Th1 and Th17 cells with IBD pathogenesis and progression.

Key Word(s): 1. IBD; 2. MDSC; 3. Th1 cells; 4. Th17 cells;
was significantly decreased in the distal colon, which suggested that the possible mechanism of 1,25(OH)2D3 may be for the direct effects on T cell phenotype and down-regulated effective cytokines, and to alleviate inflammation in the UC.

Key Word(s): 1. 1,25(OH)2D3; 2. ulcerative colitis; 3. IFN-γ; 4. IL-17/IL-21.

PR0298

IBD

Quality of life and coping mechanisms in patients with Crohn’s disease treated with biologics

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Objective: Crohn’s disease (CD) is a chronic and relapsing inflammatory bowel disorder with deep impact on health-related quality of life (QOL). In the last few years several studies have focused the attention on patients (pts) subjective perception of health state, including emotional, social aspects and coping mechanisms related to the disease. Improvement of pts’ QOL is a new important goal in medical therapy. The aim of this observational study is to investigate QOL and coping skills in patients with CD and the impact of the disease on working ability and daily activities.

Methods: We recruited 47 patients with moderate to severe CD (according to HBI Index) treated with biological therapy (BT) at the IBD Centre of Negrar Hospital (Vi, Italy). All pts answered 3 questionnaires: Short Form-36 (SF-36): a generic questionnaire which measures QOL and pts’ health status. Coping Orientation to Problems Experienced – New Italian Version (Cope-NVI); to measure different coping skills. Work Productivity and Activity Impairment Questionnaire in CD (WPAI-CD): to measure illness’ impact on work productivity (physical impairment/reduced productivity at work). Hypotheses tested with statistical methods (Z-test) are: – Health-related QOL is good for the majority of pts. – CD pts have the same coping skills of healthy people when dealing with a stressful situation. – Work productivity is not compromised. Results: SF-36 indicates that the average score of this group of pts does not differ significantly from that of healthy individuals. Cope NVI shows that coping mechanisms, when dealing with stressful events, are very similar in our CD pts group and in healthy people. Moreover, CD pts have the same standard deviation and overall score of healthy people. The WPAI-CD questionnaire shows 22.15% h work loss in a week. Work Productivity Loss, caused by disease’s symptoms, is 17.15% h. Regarding pts’ daily routine 22.15% h reported difficulties in carrying out every day’s activities. Conclusion: Interest in evaluating QOL in chronic disease pts is increasing. Our study has demonstrated that health-related QOL and coping skills are similar in our group of pts and in healthy people. Working ability and productivity is not significantly compromised. These results suggest that BT can restore health-related QOL and improve daily activities, as shown in literature. However further studies are needed.

Key Word(s): 1. Quality of life; 2. Coping mechanisms; 3. Work productivity; 4. Biological therapy;

PR0299

IBD

Infliximab as rescue therapy for patients with severe ulcerative colitis: A single centre study

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Objective: Infliximab is effective for induction and maintenance of clinical remission in patients with moderate to severe ulcerative colitis. Data concerning its proven efficacy as a rescue therapy in the severe forms of the disease refractory to intravenous (i.v.) corticosteroids are lacking. We present the results of a single centre open-label study, that has evaluated short- and long-term clinical responses and colectomy rates in severe i.v. steroid-refractory ulcerative colitis treated with biological therapy.

Methods: From January 2009 to December 2010 all hospitalized patients at the Gastroenterology Department of Negrar Hospital (Verona-Italy) with severe ulcerative colitis, according to Truelove and Witts criteria, were recruited. All patients received methylprednisolone 1 mg/Kg i.v. for 7 days. Infliximab (5 mg/Kg at 0, 2 and 6 weeks) was used as rescue therapy in steroid-refractory patients. The success of biological therapy was based on a decrease in disease activity, according to Truelove and Witts criteria. Patients with lack of response to Infliximab or steroid-refractory forms of disease considered too severe to initiate an Infliximab course underwent colectomy. Patients who responded to induction were evaluated after one year of maintenance therapy with Infliximab. Results: In the considered period 14 patients met our criteria of recruitment (10 males, 4 females, age 24–70 years). 8 of them had pancolitis and 6 had left-sided colitis. After 7 days on i.v. corticosteroids, 5/14 (35.7%) patients showed a clinical response, while 9/14 (64.2%) were considered steroid-refractory. Of these, one underwent urgent colectomy and 8 were treated with Infliximab. 1/8 (12.5%) patient failed to respond to induction therapy and underwent elective colectomy. 7/8 (87.5%) patients had a satisfactory clinical response after the induction period of biological treatment. After one year of maintenance therapy with Infliximab, 5/7 patients showed sustained clinical response, whereas 1/7 had to stop the treatment after 9 months for Aspergillus systemic infection and is now on azathioprine. 1/7 failed to respond and underwent elective colectomy after 12 months of Infliximab therapy. The colectomy rate after one year of biological treatment was therefore 14.3%. Conclusion: Our study confirms the efficacy of Infliximab as an alternative to colectomy in patients refractory to i.v. steroids. After one year of maintenance therapy with Infliximab, 85.7% of patients who showed a response to induction treatment avoided colectomy. Both colectomies, in the patients with lack of clinical response, were performed on an elective regime.

Key Word(s): 1. Infliximab; 2. ulcerative colitis; 3. steroid refractory; 4. rescue therapy;
PR0300
IBD
The role of miRNA in patients with steroid refractory ulcerative colitis
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Objective: The prognosis of steroid-refractory ulcerative colitis is very poor, while the mechanism of steroid refractory ulcerative colitis remains unknown. Recently, miRNA expression profiles have been described in epithelial cells of patients with active ulcerative colitis and may play a role in pathogenicity in ulcerative colitis, so we investigated whether miRNA take part in steroid sensitive and resistance in ulcerative colitis.

Methods: 5 patients with steroid refractory ulcerative colitis and 5 patients with steroid sensitive ulcerative colitis were recruited. The sera from patients were profiled the expression of 763 miRNAs through ABI TaqMan Low Density Array (TLDA) method. The expression of miRNAs were analyzed in Caco-2 cell line (a human CRC cell lines with a wild-type K-ras genotype and cetuximab-responsive).

Results: We found that the steroid refractory group and steroid sensitive group had a different expression of miRNAs. Specifically, miR-152, miR-210, miR-874, miR-192 and miR-195 miRNAs were differentially expressed in two groups. Compared with steroid sensitive group, the miR-152, miR-210 and miR-874 had a higher level expression while the miR-192 and miR-195 had a lower level expression in steroid refractory group. Furthermore, we analyzed that smad 7 was the target of miRNA-195 by using target scan software. In vitro study, the protein expression of smad7 in Caco-2 was found to chang with the regulation of miRNA-195, and it suggest the target of miR-195 was smad 7.

Conclusion: We found 5 differential expressed miRNA (including miR-152, miR-210, miR-874, miR-192 and miR-195) might related with the steroid refractory ulcerative colitis. The smad 7 might be the target gene of miRNA-195. The identification of miRNAs, whose expression is linked to the steroid-refractory ulcerative colitis, possibly leads to a better understanding of the molecular mechanisms of steroid response.

Key Word(s): 1. steroid-refractory; 2. ulcerative colitis; 3. miRNA;

PR0301
IBD
Differential diagnosis between intestinal tuberculosis and Crohn’s disease
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Objective: The differential diagnosis between Intestinal tuberculosis (ITB) and Crohn’s disease (CD) is very difficult. The traditional methods and some present new methods all have low sensitivity or low specificity. Scoring system that includes many factors can combine the features of clinical manifestation, Laboratory Examinations, imageological diagnosis, and endoscopic performance and Histopathological performance better. It may be more meaningful for the diagnosis between ITB and CD in theory. There are two sets of scoring system at present: Scoring system formulated by Lee from Korean basing on endoscopic features and scoring system of our country that includes clinical manifestation, Laboratory Examinations and endoscopic performance. The aim of our research is to discuss the application value of the two sets of scoring system in clinical practice. Then we can perfect the scoring system better next. Methods: Retrospectively analyses the clinical data of 68 patients with ITB and 56 patients with CD who were in our hospital from 2003 to 2012, then score the 124 cases by using the two sets of scoring system and compare their sensitivity and specificity to estimate their clinical application value.

Results: The sensitivity, specificity, positive predictive value and negative predictive value of Lee’s scoring system that indicates the diagnosis of CD, are 48.2%, 97.1%, 93.1%, 69.5%. And the ones indicates the diagnosis of ITB are 79.4%, 80.4%, 83.1%, 76.3%. The sensitivity, specificity, positive predictive value and negative predictive value of domestic scoring system Supporting CD are 58.9%, 97.1%, 94.3%, 74.2%, and the ones supporting ITB are 51.5%, 98.2%, 97.2%, 62.5%. Conclusion: The sensitivity and specificity of domestic scoring system in CD are higher than that of Lee’ scoring system. The sensitivity of domestic scoring in ITB is lower than that of Lee’ scoring system, but the specificity is higher. Generally, domestic scoring system is better than Lee’ scoring system.

Key Word(s): 1. Crohn’s disease; 2. Intestinal TB;

PR0302
IBD
The curative effect of auto-marrow stem cells in treatment for 25 patients with ulcerative colitis
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Objective: The study aims to observe the curative effect and safety of auto-marrow stem cells in treatment of patients with ulcerative colitis. Methods: 25 cases with ulcerative colitis were transplanted with autologous bone marrow stem cells at a dose of (1.5–1.8) × 106 cells/kg through femoral artery when condition was stable after medical treatment. The clinical effect, chess. Blood biochemical index and adverse events after 4, 8, 12 weeks were observed. Results: All patients in therapy group had obviously their improvement in clinical symptoms after treatment, include about abdominal pain and hemafeca disappeared, and body weight, increase. The ratio of CD4+/CD8 cells was slightly elevated after transplantation. Conclusion: Mesenchymal stem cell transplantation for the treatment of ulcerative colitis is safe and effective.

Key Word(s): 1. Ulcerative colitis; 2. stem cells; 3. Cell treatment;

PR0303
IBD
LFA-1 gene deletion on the differentiation and suppressive function of CD4CD25Foxp3 regulatory T cells
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Objective: To explore the role of LFA-1 gene deletion on the differentiation and suppressive function of CD4CD25Foxp3 regulatory T cells induced by mice naive T cell in vitro. Methods: CD4 + CD62L+ naive T cells of LFA-1 deficient mice and wild C57/B6 mice (control group) were separated with MACS and the purity was analyzed by FCM. Naïve T cells were cultured in 96-well microplate with bound anti-CD3mAb and anti-CD28 mAb together with soluble murine IL2 and human TGF-β1 at 37°C for 90–108 hours. The ratio of CD4 + CD25 + Foxp3+ regulatory T was analyzed by FCM. The Foxp3 mRNA of cultured cells was measured by qRT-PCR. All type murine CD4 + T cells separated by MACS were stained by CFSE, which were then co-cultured with iTregs in proportion to 1 : 1. The proliferation index of CD4+ T cells was detected by FCM on 48 h−72 h. Results: The purity
of naïve T cells separated by MACS was satisfied for further study. The number of iTregs cells and expression of Foxp3 mRNA induced by naïve T from LFA-1 deficient mice were lower ratio than that of wild type mice. LFA-1 gene deletion affects differentiation of CD4 + CD25 + Foxp3+ regulatory T cells induced by mice naïve T cell in vitro. Comparison of the three group samples had statistical differences. FCM results show that LFA-1 gene deletion group CD4 + T cell had more proliferation than wild mice group, however, there is no statistical difference between them. Conclusion: Deficiency of the LFA-1 gene could affect the differentiation of CD4 + CD25 + Foxp3+ regulatory T cells induced by mice naïve T cells in vitro. However, More evidence is necessary to prove that the repressive effect of LFA-1 deficient iTreg cells to CD4 + T cells has damage.

Key Word(s): 1. LFA-1; 2. iTregs; 3. LFA-1 gene deletion; 4. Foxp3 mRNA induction

PR0304

IBD

TNBS induced colitis in mice is ameliorated by all-trans retinoic acid though regulating the balance of Treg/Th17

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Objective: Inflammatory bowel disease (IBD) is characterized by an aberrant immune response in intestinal mucosa. The inflammation may be caused by the loss of homeostasis between Foxp3+ regulatory cells (Treg) and Th17 cells. Retinoic acid (RA) is abundantly produced in the intestinal mucosa and regulates the plasticity of Th17/Treg cells. The aim of this study was to determine whether an active metabolite of vitamin A, all-trans retinoic acid though regulating the balance of Treg/Th17 in colon. The inflammation may be caused by the loss of homeostasis between Foxp3+ regulatory cells (Treg) and Th17 cells. Retinoic acid (RA) is abundantly produced in the intestinal mucosa and regulates the plasticity of Th17/Treg cells. The aim of this study was to determine whether an active metabolite of vitamin A, all-trans retinoic acid, reduces inflammation in experimental colitis.

Methods: Murine colitis was induced by intracolonic administration with TNBS on Day 0. RA was administered intragastrically daily from Day 1 to Day 7. The inflammation of colon was assessed by MPO activity assay and the histological score. The numbers of Th17 and Treg cells were detected by flow cytometry. The expressions of IL-17 and FOXP3 in colon were detected by Western blot. Results: Severe inflammation in colon was induced by TNBS. After the RA treatment, the histological score and the activity of MPO decreased. Though the numbers of Th17 and Treg cells in colon in RA treated mice were not changed significantly compared with controls, the content of IL-17 and FOXP3 in colon decreased. Conclusion: RA can reduce the inflammation induced by TNBS. This effect may mediate by regulate the balance of Treg/Th17 in colon. (This work is supported by Grants from National Science Foundation of China (No. 81000159 and No. 81000928)

Key Word(s): 1. ulcerative colitis; 2. RA; 3. Treg; 4. Th17;

PR0305

IBD

Efficacy of adipose-derived stem cells for complex perianal fistulas: A meta-analysis

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Affiliations: The first affiliated hospital of Sun Yat-sen University

Objective: To conduct a meta-analysis of randomized controlled trials (RCTs) evaluating the efficacy of Adipose-Derived Stem Cells (ASCs) for the induction complex perianal fistula healing. Methods: Search strategy: MEDLINE (PubMed), The Cochrane Central Register of Controlled Trials, the IBD/FBD review group specialized register the ISI-Research Institute were searched (1997–2013) to identify relevant studies all randomized trials. Selection of studies: Evaluating ASCs for induction clinical fistula closure. RCTs comparing ASC with placebo were included in the meta-analysis. Study quality: Independently assessed by two reviewers. Data synthesis: By “intention-to-treat”. Results: Two RCT studies were included in the meta-analysis. Induction of fistula healing (predefined as the absence of drainage through the external openings complete reepithelialization of external openings, assessed by a blinded evaluation committee); two studies (148 ASC-treated patients) showed mean efficacy of 39% vs. 15% in controls (OR = 3.87; 95% CI = 1.95–7.71, RD 0.14; 95% CI 0.05–0.24; NNT = 7, P = 0.0003). We further analysis if more dosages will achieve better efficacy, three studies were included, showing no significant difference between more than one dose vs. single dose in introducing complete closure of fistula closure, with the rate of 38% and 44%, respectively (OR = 0.74; 95% CI 0.33–1.67). Conclusion: ASCs are more effective than placebo for the the induction fistula healing, with an odds ratio 3.87 (95% CI = 1.95–7.71) with an NNT of 7 and an absolute risk reduction of 24%.

Key Word(s): 1. Stem Cells; 2. Perianal Fistulas; 3. Efficacy;
FK506 group (45%, 34/75) were significantly more likely than placebo patients (26%, 13/50) to experience adverse events related to treatment (OR 2.97; 95% CI 1.29–6.80, P = 0.01). Moreover, there were 2 cases of serious adverse events happened in the FK506 group while none in the placebo patients. However, when taking account all the adverse events, there were no significantly difference between two groups (OR 2.0; 95% CI 0.9 to 4.47, P = 0.09).

**Conclusion:** FK506 may be effective for both clinical improvement mucosal healing in patients with refractory UC. The use of tacrolimus in the clinical setting requires careful consideration of risks versus benefits and close monitoring for adverse events.

**Key Word(s):** 1. Tacrolimus (FK506); 2. ulcerative colitis; 3. Efficacy; 4. Safety;

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**Figure.** Comparison of FK506 versus placebo

The primary outcome variable was the proportion of patients with improvement (combination of patients with partial or complete response) based on the disease activity index (DAI) score. A complete response was defined as complete resolution of all symptoms with a zero score for all assessments of the DAI. A partial response was defined as a reduction >4 points on the DAI with improvement in all categories, but not a complete response. Clinical remission was defined as a DAI score ≤2, with no individual subscore >1, and mucosal healing was defined as an endoscopy subscore ≥2 at entry of 0 or 1

**PR0307 IBD**

**Value of peri-appendiceal orifice erosion with left hemicolon inflam in diagnosis of UC**

**Presenting Author:** JUNCHAO WU  
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**Affiliations:** West China Hospital

**Objective:** To analyze the relationship between the punctiform erosion in peri-appendiceal orifice and the left-sided ulcerative colitis; to investigate the significance of the punctiform erosion in peri-appendiceal orifice in the diagnosis of the left-sided ulcerative colitis.

**Methods:** The endoscopic changes (punctiform erosion in peri-appendiceal orifice with diffused left-sided colitis) of 29 patients in West China Hospital from January 2007 to November 2012 were analyzed. Patients with either edema, ulcer, polyps in the peri-appendiceal orifice, inflammation in the ascending colon, transverse colon or segmental Inflammation in left hemicolon were excluded. The characteristic changes in the endoscope and the final diagnosis were compared by means of the pathological biopsy.

**Results:** Of the total 29 patients with characteristic changes under the endoscope, 26 patients were eventually diagnosed as left-sided ulcerative colitis; 1 patients were identified as Cronh disease, the remaining 2 patients cannot be classified.

**Conclusion:** Our findings suggest that the characteristic changes under the endoscope may help the diagnosis of ulcerative colitis as well as to distinguish the inflammatory bowel disease from infectious colitis.

**Key Word(s):** 1. ulcerative colitis; 2. skip lesion; 3. appendiceal orifice;

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**PR0308 IBD**

**The effect of inhibitory ODN on cytokines expression secreted by LPMCs from the patients with UC**

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**Corresponding Author:** PENG SUN  
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**Objective:** To study if inhibitory ODN could decrease the levels of IL-8 and TNF-α secreted by lamina propria mononuclear cells (LPMCs) from the patients with ulcerative colitis (UC).

**Methods:** LPMC were isolated from intestinal mucosal biopsy specimens from 10 patients with UC, and cultured with or without CpG ODN, inhibitory ODN (A151) and dexamethasone (DEX). The levels of IL-8 and TNF-α were tested by enzyme linked immuno sorbent assay (ELISA) and the expression of IL-8 and TNF-α mRNA was measured by reversal transcription-polymerase chain reaction (RT-PCR).

**Results:** A151 resulted in down-regulation of the expression of IL-8 and TNF-α mRNA, and strikingly decreased the levels of IL-8 and TNF-α, and the inhibitory effects were greater than those induced by DEX (P < 0.05).

**Conclusion:** The application of inhibitory ODN may serve as a novel molecular approach for the treatment of patients with UC.

**Key Word(s):** 1. UC; 2. Inhibit ODN; 3. LPMCs;
**PR0309**
**IBD**
**Relationship of PTPN2 gene polymorphisms with inflammatory bowel disease in population**

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**Objective:** Inflammatory bowel disease (IBD) is a chronic non-specific inflammatory bowel disease, including ulcerative colitis (UC) and Crohn’s disease (CD). At present, the etiology and pathogenesis are not clear, consistent point of view to carry the genetic susceptibility genes of the host, under the action of environmental factors, chronic intestinal infection and defect, mucosal antigen barrier antigen active immune control and other autoimmune disorders, eventually leading to the occurrence of IBD. Moreover, monozygotic twins than dizygotic twins higher prevalence differences in aggregation phenomenon and racial rate, inflammatory bowel disease families indicate that genetic factors play an important role in the pathogenesis of inflammatory bowel disease. Since 2001 Hugot et al and Ogura et al first screening of genes of NOD2 was identified as a susceptible gene of the CD, has confirmed on inflammatory bowel disease susceptibility genes/site nearly 100, among them CD 71, UC 47, the common 28 at least. These identified genes PTPN2, IL23R, ATG16L1, NKKX2-3, IRGM, DLG5, OCTN1, OCTN2 etc. But the susceptibility genes of specific inflammatory bowel disease have not yet found. Researching for the inflammatory bowel disease susceptibility genes has always been focus in the world. Not many reports on inflammatory bowel disease susceptibility genes in China. Single nucleotide polymorphisms of PTPN2 gene rs2542151 and rs7234029 have been studied in most western countries proved susceptible genes for inflammatory bowel disease. It was reported that the PTPN2 gene rs2542151 may be a susceptible gene of Chinese part of patients with UC in Guangzhou China. **Methods:** Intestinal mucosa tissue of one-hundred and forty-two unrelated IBD patients containing eighty ulcerative colitis (UC) and sixty-two cases of Crohn’s disease (CD), and one-hundred and sixty-four cases of normal control group were collected in the First Affiliated Hospital of Guangxi Medical University Guangxi from Nov, 2010 to Sep, 2012. Each sample DNA extraction with phenol – chloroform method. Polymorphism of PTPN2 gene rs2542151 and rs7234029 were genotyped in 142 unrelated IBD patients and 164 controls people. The case group and the control group for comparison and analysis. The polymyzer chain reaction-restriction fragment length polymorphism (PCR-RFLP) was used. **Results:** No significant differences were show in the PTPN2 gene rs2542151 as well as rs7234029 genotype and allele frequency among the CD patients and the controls in Han and Zhuang population of Guangxi Province (p > 0.05). Our analysis also revealed a significant association of PTPN2 rs2542151 and rs7234029 with susceptibility to UC in Guangxi of Han and Zhuang population (p < 0.05). Genetic polymorphism of the two loci in the UC group with gender, disease stage and onset location comparison were not statistically significant (p > 0.05). **Conclusion:** Gene polymorphisms of PTPN2 SNP rs2542151 and rs7234029 association with UC in Guangxi Zhuang and Han populations, but not with CD patients. The gene may be a susceptible gene with part of patients in Guangxi China. But no obvious correlation in the clinical phenotype of the gene polymorphism with UC. **Key Words(s):** 1. IBD; 2. ulcerative colitis; 3. Crohn’s disease; 4. PTPN2; 5. NOD2

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**PR0310**
**IBD**
**Effect of curcumin on the expression of IL-17 in TNBS-induced colitis**

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**Objective:** To investigate the effects of curcumin on the expression of IL-17 and IL-23 in TNBS induced experimental colitis, and to explore the anti-inflammatory action of curcumin in colitis. **Methods:** Sixty Sprague-Dawley rats were randomly divided into four groups including normal control group (group A, n = 15), TNBS-induced colitis group (group B, n = 15), curcumin –treated group (group C, n = 15) and SASP-treated group (group D, n = 15). Rat colitis model (group B, C and D) was established by intrarectal administration with 100 mg/kg body weight of TNBS (in 0.25 ml 50% ethanol), group A was administered the same dose of 0.9% sodium chloride solution in 0.25 ml 50% ethanol using the same technique. Then group C was treated with 100 mg/kg body of curcumin and the same dose of SASP for group D by intragastric administration daily. Rats in group A and B were respectively treated with 100 mg/kg body weight of 0.9% sodium chloride solution. Colon intestinal and serum sample were collected after 8 days. Evaluated weight loss, stool consistency, and blood in feces in each group. The disease activity index (DAI) was calculated by assigning well-established and validated scores for parameters. Evaluated colonic mucosal damage index (CMDI) and histological activity index (HAI). Determined IL-17 and IL-23 levels with immunohistochemistry in colonic mucosa, and with enzyme-linked immunosorbent assay (ELISA) in serum. **Results:** Compared with the TNBS-induced colitis group, the scores of DAI, CMDI, HAI, the expression of IL-17, IL-23 in colonic mucosa and serum were all decreased in the curcumin-treated group (P < 0.05). While there was no significant difference in DAI, CMDI, HAI, expression of IL-17, IL-23 between the curcumin-treated group and SASP-treated group (P > 0.05). **Conclusion:** Curcumin can attenuates inflammation through inhibition of IL-17 and IL-23 in experimental rats colitis. **Key Words(s):** 1. curcumin; 2. colitis; 3. IL-17; 4. IL-23; 5. TNBS-induced colitis

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**PR0311**
**IBD**
**The observation of the effect of NF-κB Decoy ODN on intestinal fibrosis of mice induced by TNBS**

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**Objective:** To explore the effect of NF-κB Decoy ODN enema on the BALB/C mice with chronic intestinal fibrosis induced by TNBS/50% EtOH, and research the best treatment of NF-κB Decoy ODN to intestinal fibrosis. To observe the experimental mice disease activity index (DAI), analyze the change of histological pathologiclal, find the hyperplasia degree of collagen fibers, research the expression of IL-1β, TNF-α, Col-III mRNA and NF-κB, TGF-β1 protein. So that we can study the mechanism of NF-κB Decoy ODN on the BALB/C mice with chronic intestinal fibrosis induced by TNBS, and provide the experimental basis for IBD treatment. **Methods:** 1. Establishment of IBD mice models BALB/C mice are fasting but free for water for 24 hours, ether anesthesia, use 3.5 F catheter insert into the intestine from anus and the depth is about 5.5 cm. Give 2 mg TNBS/50% EtOH 100 ul enema, and inverse the mice for 60 seconds. Last for 6 weeks, once for a week, all groups of mice get executed one week
after the last enema. 2. Groups 80 BALB/C female mice which weight about 20 to 25 g, 6–8 weeks of age are randomly divided to 8 groups, 10 in each group. The 8 groups are: normal saline blank control group (blank group), TNBS model group (TNBS group), NF-κB mssense oligonucleotide treatment negative contrast I, II, III group (MSODN I, II, III group), NF-κB Decoy ODN treatment I, II, III group (Decoy ODN I, II, III group). 3. Observation indexes and test methods All groups of mice get executed by cervical vertebral dislocation one week after the last enema in order to get colon tissue. Use HE staining to evaluate the degree of inflammation of the colon tissue, VG staining to assess the degree of intestinal fibrosis. Use RT – PCR to detect the expression of IL-1β, TNF – α and Col-III mRNA, immunohistochemistry to detect the expression of NF-κB and TGF-β1 protein of colon tissue. Results: 1. General situation and DAI score: The mice of blank group are normal diet, free movement, hair luster, no death during experimental; The mice of TNBS group, MSODN I, II, III group are less diet, weight loss, exercise less, hair dull, diarrhea, stool occult blood, even the naked eye bloody stool within 3 days after enema weekly, four days later the symptoms gradually reduced, during the experiment, adverse symptoms mainly concentrate in the first three weeks, symptoms tend to be stable after three weeks, death mainly concentrate in the first three weeks; The mice of Decoy ODN I, II, III group can appear aforementioned symptoms, but to a lesser degree, adverse symptoms mainly concentrate in the first three days, then tend to be stable, during the experiment, due to the different treatment of administration, adverse symptoms concentrate at different time, 3–4 weeks are more obvious, no death. The DAI score of each group: The DAI score of blank group is lower than other experimental groups and has statistical significance (P < 0.05); TNBS group and MSODN I, II, III group have no statistical significance (P > 0.05); The DAI scores of Decoy ODN I, II, III group are lower than TNBS group, MSODN I, II, III group and have statistical significance (P < 0.05); Decoy ODN I, II, III group have statistical significance among three groups (P < 0.05). 2. General observation and pathological manifestation: The mice of blank group colon tissue appear reddish, no special change by macroscopic observation. The mice of TNBS group, MSODN I, II, III group can observe that visible deformation of colon bowel, thicken adhesion of bowel wall, and hyperemia, edema, erosion, ulcer, even nodule; The mice of Decoy ODN I, II, III group can appear aforementioned changes, but to a lesser degree, and no visible deformation of colon bowel, thicken adhesion of bowel wall, the degree of Decoy ODN III group is the lightest. Pathological manifestation, The mice of blank group have no special pathological changes; The mice of TNBS group, MSODN I, II, III group, HE staining shows inflammation, such as cellular structure disorder, glandular destruction, crypt destruction, inflammatory cells infiltration; VG staining shows fibrosis, such as a lot of pink collagen fiber hyperplasia under mucosa and serosa layer, the muscularis propria is obviously thicken. The inflammation and fibrosis score of each group: The score of blank group is lower than other experimental groups and has statistical significance (P < 0.05); TNBS group and MSODN I, II, III group have no statistical significance (P > 0.05); The scores of Decoy ODN I, II, III group are lower than TNBS group, MSODN I, II, III group and have statistical significance (P < 0.05); Decoy ODN I, II, III group have statistical significance among three groups (P < 0.05). 3. The expression level of IL-1β, TNF-α, Col-IIImrna: Three mRNA expression level of blank group are lower than other experimental groups and have statistical significance (P < 0.05); TNBS group and MSODN I, II, III group have no statistical significance (P > 0.05); Three mRNA expression level of Decoy ODN I, II, III group are lower than TNBS group, MSODN I, II, III group and have statistical significance (P < 0.05); Decoy ODN I, II, III group have statistical significance among three groups (P < 0.05). 4. The protein expression change of NF-κB, TGF- β1: The NF-κB, TGF-β1 protein expression of blank group are lower than other experimental groups and have statistical significance (P < 0.05); TNBS group and MSODN I, II, III group have no statistical significance (P > 0.05); The NF-κB, TGF-β1 protein expression of Decoy ODN I, II, III group are lower than TNBS group, MSODN I, II, III group and have statistical significance (P < 0.05); Decoy ODN I, II, III group have statistical significance among three groups (P < 0.05). Conclusion: 1. It confirms that TNBS/EtOH enema can induce the chronic intestinal fibrosis of mice by observing the disease activity index, colonic general observation, pathology and fibrosis of each group. 2. NF-κB Decoy ODN treat for 6 weeks is most significantly which can reduce intestinal inflammation and fibrosis in mice, NF-κB MSODN has no effective treatment. 3. The mechanism of NF-κB Decoy ODN for reducing intestinal inflammation and fibrosis is to decrease the mRNA expression level of IL-1β, TNF-α, Col-III and the protein expression of NF-κB, TGF-β1. NF-κB Decoy ODN can be a new effective drug for IBD therapy. Key Word(s): 1. IBD; 2. TNBS; 3. intestinal fibrosis; 4. NF-κB Decoy ODN;

PR0312

IBD

Tfh cell regulates antibody formation to initiate inflammation in immune-complex induced colitis

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Objective: Tfh cell plays an important role in humoral immunity. This study aimed at investigating the changes of Tfh cell numbers, plasma cell numbers and the titers of autoantibody in immune-complex induced colitis.

Methods: Twelve male BALB/C mice were randomly divided into two groups: control group and model group. Model group give immune complex subcutaneous and intraperitoneal injection respectively day 0, 7, 14 and 21. Then intracolonic administration of TNBS in 50% ethanol on day 28. The mice of model group were treated with an equal volume of saline at the same time. All of the mice were sacrificed on day 42, and the microscopic damage of colon was assessed by the HE dyeing as well as MPO activity assay. Changes of the Tfh and plasma cell numbers were detected by flow cytometry. The expression of IL-21 and Bcl-6 mRNA in colon mucosa were determined by RT-PCR. We also used Elisa to observe the titers of the autoantibodies in serum.

Results: Compared with mice of control group, MPO activity of model group were significantly increased (P < 0.05); Tfh and plasma cell numbers and IgG levels were significantly increased (P < 0.05); the expression of IL-21 and Bcl-6 mRNA in colon mucous were significantly upregulated.

Conclusion: Tfh cell, which regulates autoantibody formation, initiate intestinal inflammation in immune-complex induced colitis. It shows that humoral immunity may play an important role in the pathogenesis of colitis.

Key Word(s): 1. colitis; 2. immune complex; 3. Tfh; 4. plasma cell;

PR0313

IBD

Determination of plasma Interleukin-1β and transforming growth factorβ1 in patients with UC

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Objective: For the purpose of observing the levels of plasma Interleukin-1β and transforming growth factorβ1 in the patients with ulcerative colitis (UC) and probing into their clinical significance.

Methods: the levels of plasma Interleukin-1β and transforming growth factorβ1 were determined in 44 patients with UC, 14 patients with irritable
bowel syndrome. Results: The results showed that there was difference in the levels of plasma Interleukin-1β and transforming growth factorβ1 both between the patients with severe UC and healthy persons (p < 0.05), but no difference between the patients with irritable bowel syndrome, In the patients with UC, the levels of Interleukin-1β are correlated to transforming growth factorβ1. Conclusion: The conclusion is that plasma Interleukin-1β and transforming growth factorβ1 are involved in the pathology of UC, and result in a certain value to evaluate the conditions of UC.

Key Word(s): 1. ulcerative colitis; 2. Interleukin-1β; 3. TGF-β1;

PR0315
IBD
The follow-up study of 106 patients with severe ulcerative colitis
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Objective: 1. To investigate the clinical features of Severe Ulcerative Colitis SUC, forecast adverse outcomes and improve the initiative of clinic treatment; 2. To study the clinical high risk factors of severe hormone refractory ulcerative colitis UC; 3. To follow up the outcomes and operation condition for the replace treatment of severe hormone UC patients, and investigate the clinical high risk factors of excision. Methods: We need to choose 112 cases which is suitable of SUC diagnostic criteria from 309 cases that the Department of Gastroenterology, First Affiliated Hospital of Anhui Medical University received from January 2001 to December 2012, and according to the criteria of diagnosis, remove and rejection, 106 cases of SUC patients has been put into the study finally. 1. The information of SUC patients need to formulated into a clinical data investigation and registration form, which register all of patients’ Demographic data, clinical data and treatment during the hospital stay, to obtain the patients’ prognosis condition through the observation during the hospital stay and follow-up visit after discharge and count and analyze the relationship between all the variables and the prognosis. 2. According to patients’ reaction to glucocorticoid treatment, we can divide them into Hormone effective group and Hormone refractory group, compare the clinical data of two groups and at the same time analyze from parallel single factor and multi-factor logistic regression. 3. Analyzing the surgical patients’ clinical data through single factor and multi-factor logistic regression, counting and analyzing the clinical high risk factor for excision.

Results: 1. The clinical feature analysis of SUC: among 106 patients with SUC, there were 72 cases of men and 34 cases of female, male: female = 2.09: 1; aged from 15 to 73 years old (39.52 ± 13.8), the highest rate of 50% (86/106) is of the group aged from 25 to 45 years old; The rate of the group in which main lesion type is chronic recurrent type is 89.6% (95/106); The rate of the group in which the main clinical manifestation is stomachache, diarrhea, mucopurulent bloody stool, the rate of Moderately severe stomachache is 83% (88/106), the defecation times > 6 times/day 73.6% (78/106), > 10 times/day 19.8% (21/106), the rate for Moderately severe henaefica is 84.9% (90/106); the rate of extensive colonic lesions among Colon lesions is 83% (88/106); the main grade of Endoscopic mucosal inflammation is 2–3 points 87.7% (93/106); anemia 65.1% (69/106), Moderately severe anemia 34.9% (37/106); platelet increased to 48.1% (51/106); CRP increased to 88.7% (94/106), CRP ≥ 40 mg/l 50% (53/106), CRP > 70 mg/l 14.2% (15/106); hyperproteinemia 42.2% (45/106).

2. The clinical high-risk feature analysis of SUC: among the 106 patients with SUC, 89.6% (95/106) accepted the treatment of Glucocorticoid, Refractory group and Effective group respectively took up 35.8% (34/95) and 64.2% (61/95). Refractory group differ from Effective group’s because their diarrhea 10 ≥ time/day, Severe mucous purulent blood, Severe anemia, soterocyte increased, CRP > 70 mg/l, Albumin < 25 g/l difference was statistically significant (P < 0.05), difference wasn’t statistically significant in sex, age, other clinical features and laboratory indicators (P > 0.05), but through the logistic regression analysis of multi-factor, severe anemia (OR = 6.750, 95% CI = 2.656–17.152, P = 0.000), thrombocytopenia (OR = 4.032, 95% CI = 1.226–13.261, P = 0.015), Albumin < 25 g/l (OR = 3.022, 95% CI = 1.236–7.390, P = 0.022) are independent predictors of the refractoriness of hormone.
3. The severe hormone refractory patients with UC can obtain the remission through increasing the dosage of hormone, prolonging the life time of the hormone, increasing the usage of immune regulator, biologicals, resect of the intestinal segment resection of the lesion site and so on. Among the 106 patients with SUC, 13.2% (14/106) had the operative treatment, after regression analysis with the multi-factor, it displays that Albumin < 25 g/l (OR = 3.731, 95% CI: 0.774–17.975, P = 0.011) is the independent predictors.

**Conclusion:** 1. The number of male patients of SUC is more than female patients, and the morbidity age mainly is from 25–45 years old, the lesion range is wide, and there are many clinical features such as Moderately severe stomachache, diarrhea, mucopurulent bloody stool and anemia, thrombocythemia, hypoproteinemia, CRP increased and so on. 2. Severe anemia, thrombocythemia, albumin < 25 g/l is an independent predictor of hormone refractory. 3. The UC with Severe hormone refractory can be further cured through immunomodulator, biologicals, operation and so on, albumin < 25 g/l is an independent predictor of surgical resection.

**Key Words:** 1. ulcerative colitis; 2. biologicals; 3. immunosuppressor; 4. follow-up visit;

**PRO316**

**IBD**

**Association of gene polymorphisms of matrix metalloproteinase (MMP) with ulcerative colitis**

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**Objective:** Extracellular matrix can be degraded by Matrix metalloproteinases (MMPs), which participate the damage and repair of organization. MMPs participate the development of Ulcerative colitis (UC) by degrade ECM, facilitate apoptosis, effect new vascularization, and facilitate delivery of cytokine. MMP-1, MMP-3, and MMP-9 gene polymorphisms have been shown to influence the transcriptional activity of their respective gene promoter in an allele-specific manner. The aim of this study is to examine the possible association of MMP-1, MMP-3, and MMP-9 gene polymorphisms with UC in the Chinese Han population.

**Methods:** We examined 102 patients with UC and 110 healthy controls. We determined MMP-1 1G/2G, MMP-3 5A/6A, and MMP-9 C/T polymorphisms using polymerase chain reaction based assays. **Results:** In MMP-1 genotypes, the 2G homozygotes were significantly more in UC group than in control group. In MMP-3 genotypes, there were no significant differences in genotype distributions and allele frequencies between UC group and control group. In MMP-9 genotypes, the C homozygotes and C allele frequencies were significantly more in UC group than in control group. **Conclusion:** MMP-1 and MMP-9 gene polymorphisms are correlated with the susceptibility to UC in Chinese Han population.

**Key Words:** 1. ulcerative colitis; 2. gene polymorphism; 3. MMP-1 MMP-3 MMP-9;

**PRO317**

**IBD**

**5-LOX/COX-2 inhibitors on DSS-induced colitis mice via PPARγ and NF-kappaB transduction pathway**

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**Objective:** Ulcerative colitis (UC) is a kind of common digestive system diseases. No drugs or surgical methods of treating UC have a no relapsing cure rate and few nontoxic therapeutic options are currently able to modulate intestinal inflammation. Therefore, it is still challenging to develop new and specific therapies for UC. Several researches have reported that COX-2 inhibitors may exacerbate the inflammation of colitis with mice. 5-LOX inhibitors were superior to placebo in remission maintenance in ulcerative colitis, but failed to show that it was better than placebo. The possible reason is that COX-2 and 5-LOX are co-expression and up-regulated consistently increased in inflamed tissue of UC. COX-2 and 5-LOX pathways have converging function in inflammation. Inhibition of one pathway may lead to a shunt of arachidonic acid metabolism towards another pathway. SASP, an anti-inflammatory drug that has been used in the treatment of IBD for more than 50 years. It suppresses arachidonic acid (AA) metabolism and eicosanoids formation. However, the particular mechanism is unclear. SASP is now recognized as a ligand for PPARγ. By promoting PPARγ Expression and its nuclear translocation, 5-ASA of SASP interfered with the NF-KB pathway by reducing NF-kB P65 translocation/activation. There was a good correlation among the expression of COX-2, 5-LOX, PPARγ and NF-kb P65. IL-13 and IL-8 are important proinflammatory cytokines. They have good collocation with PPARγ and AA metabolism and the activity of UC. We have found that higher expression of COX-2, 5-LOX mRNA and protein was related to development of UC in foregoing study. They may play a more pivotal role in inflammation of UC. Regulating mechanisms of COX-2 and 5-LOX may be resembled. Therefore, we hypothesized that 5-ASA simultaneous inhibitor COX-2 and 5-LOX pathways could activation of PPARγ, inhibit NF-kb and suppress intestinal inflammation DSS-induced colitis, it might represent a new class of anti-inflammatory agents in UC. The purposes of this study are to observe the effects of celecoxib, AA861 and 5-ASA on dextran sulphate sodium-induced colitis experiment with mice via PPAR and NF-kappaB transduction pathway, and to investigate whether there exists a relationship between COX-2 and 5-LOX pathway, and whether dual inhibition of COX-2 and 5-LOX has a better effect on the dextran sulphate sodium (DSS)-induced colitis experiment with mice.

**Methods:**

1. Setting up colitis models with six to eight weeks healthy female Balb/c mice and dividing in five groups: negative control group, DSS-induced model group, celecoxib interfering group; AA861 interfering group and SASP interfering group respectively. The effects of each group were assessed by gross and histopathological examination.

2. Immunohistochemistry study for the expression of 5-LOX, COX-2, PPARγ and NF-kb P65 in colonic mucosa of DSS-induced colitis.

3. Western blotting for the expression of 5-LOX, COX-2, PPARγ and NF-kb P65 in colonic mucosa of DSS-induced colitis.

4. ELASA for the expression of PGE2, LTB4, IL-13 and IL-8 in the supernatant of mucosa for DSS-induced colitis.

**Results:**

1. The scopes of gross and histopathological examination in DSS model group and celecoxib group were significantly higher than control group. The scopes of gross and histopathological examination in AA861 group and SASP group were significantly lower than control group.
2. The expression of 5-LOX, COX-2 and NF-kB P65 in colonic mucosa by immunohistochemistry assay in DSS model group was significantly higher than those in control group; the expression of PPARγ was significantly lower than those in control group control group. The expression of 5-LOX and NF-kB P65 in colonic mucosa by immunohistochemistry assay in celecoxib group was significantly higher than those in control group; the expression of COX-2 and PPARγ was significantly lower than those in control group control group. The expression of 5-LOX in colonic mucosa by immunohistochemistry assay in AA681 group was significantly higher than those in control group; the expression of PPARγ, 5-LOX and NF-kB P65 was significantly lower than those in control group control group. The expression of COX-2 in colonic mucosa by Western blotting in AA681 group was significantly higher than those in control group; the expression of COX-2 and PPARγ was significantly lower than those in control group control group. The expression of COX-2 in colonic mucosa by Western blotting in AA681 group was significantly higher than those in control group; the expression of PPARγ, 5-LOX and NF-kB P65 was significantly lower than those in control group control group. The expression of PPARγ, COX-2, 5-LOX and NF-kB P65 in colonic mucosa by immunohistochemistry assay in SASP group was significantly lower than those in control group control group.

3. The expression of 5-LOX, COX-2 and NF-kB P65 in colonic mucosa by Western blotting in DSS model group was significantly higher than those in control group; the expression of PPARγ was significantly lower than those in control group control group. The expression of 5-LOX and NF-kB P65 in colonic mucosa by Western blotting in celecoxib group was significantly higher than those in control group; the expression of COX-2 and PPARγ was significantly lower than those in control group control group. The expression of COX-2 in colonic mucosa by Western blotting in AA681 group was significantly higher than those in control group; the expression of COX-2 and PPARγ was significantly lower than those in control group control group. The expression of PPARγ, 5-LOX and NF-kB P65 was significantly lower than those in control group control group. The expression of PPARγ, COX-2, 5-LOX and NF-kB P65 in colonic mucosa by Western blotting in SASP group was significantly lower than those in control group control group.

4. By ELISA, the expression of PGE2, LTB4, IL-13 and IL-8 in the supernatant of colonic mucosa of DSS model group was significantly higher than those in control group control group. The expression of PGE2 in the supernatant of colonic mucosa of DSS model group was significantly higher than those in control group control group. The expression of COX-2 and PPARγ was significantly lower than those in control group control group. The expression of PGE2 in the supernatant of colonic mucosa of AA681 group was significantly higher than those in control group; the expression of LTB4, IL-13 and IL-8 was significantly lower than those in control group control group. The expression of PGE2, LTB4, IL-13 and IL-8 in the supernatant of colonic mucosa of SASP group was significantly lower than those in control group control group.

Conclusion:

1. There was a good correlation among AA and inflammation of UC, COX-2 and 5-LOX pathway, as the two major pathway of arachidonic acid metabolism existed the competing relationship each other. LTB4 play an more important role than PGE2 in the dextran sulphate sodium-induced colitis experiment with mice.
2. Inhibition of COX-2 may lead to a shunt of arachidonic acid metabolism towards the leukotriene pathway in the dextran sulphate sodium-induced colitis experiment with mice. It may be the reason that COX-2 inhibitors may exacerbate the inflammation of DSS-induced colitis with mice.
3. Suppression of 5-LOX induces a slight shunt and produced. Therefore 5-LOX inhibitor is more effective than COX-2 inhibitor and has an anti-inflammation effect.
4. SASP can block both COX-2 and 5-LOX pathway. It can inhibit all the COX-2 and 5-LOX pathway, and presents a superior anti-inflammation profile in DSS mice. The possible mechanism may be activation of PPARγ and inhibit NF-kB P65.
5. IL-13 is an important anti-inflammation cytokines. It may play the anti-inflammation role in the DSS induced colitis experiment with mice in the coordination of PPARγ.

Key Word(s): 1. DSS colitis; 2. Cyclooxygenase-2; 3. 5-lipoxygenase; 4. PPARγ.
Key Word(s): 1. <1.0 mg/kg AZA; 2. maintain remission; 3. Crohn’s disease; 4. Chinese patients;

**PR0320**

**IBD**

**Imbalanced intestinal flora as predictive factor of response to infliximab in Crohn’s disease**

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**Objective:** The Infliximab have dramatically improved the treatment in Crohn’s disease (CD). However, loss of response to Infliximab is an emerging clinical problem and the prospective studies of intestinal flora on anti-TNFα treatment are relatively unexplored. The aim of this study was to investigate effects of infliximab treatment on gut microbiome in patients with CD.

**Methods:** 18 patients with CD (13 with sustained response, 5 with replace) treated with Infliximab (5 mg/kg at weeks 0, 2, and 6 and then every eight weeks) and 8 healthy controls was recruited. The fecal microbial community was analyzed by sequencing 16S rRNA V4 tags on Illumina Miseq platform followed by real-time quantitative polymerase chain reaction. **Results:** Dramatic shifts were observed both before and during infliximab treatment in both bacterial diversity and richness, while the microbial communities of health control subjects were relatively stable over time. Compared with sustained response group, the proportions of both phylum Proteobacteria and Bacteroidetes were increased in the replace group (P < 0.05). Positive correlations were observed between Veillonellaceae and disease duration (R = 0.4099, P = 0.014) or CRP (R = 0.4049, P = 0.0089) and between ESR and Streptococcaceae (R = 0.4047, P = 0.047). **Conclusion:** The increased diversity of Proteobacteria and Bacteroidetes is a predictor of Crohn’s disease replace treated with Infliximab. The Veillonellaceae and Streptococcaceae both in phylum Firmicutes are possibly associated with active CD.

**Key Word(s):** 1. intestinal flora; 2. Crohn’s disease; 3. INFLEXIMAB; 4. predictive factor;

**PR0321**

**IBD**

**Hemophagocytic syndrome in clinical diagnosis Crohn diseases: A case report and review of literature**

**Presenting Author:** JING ZHANG

**Additional Authors:** YUAN LI, SHIGANG DING, YONGHUI HUANG, LIYA ZHOU

**Corresponding Author:** LIYA ZHOU

**Objective:** To describe the clinical features of 1 patient with Hemophagocytic syndrome (HPS) in Clinical diagnosis Crohn diseases.

**Methods:** We collected the data of 1 patients with Clinical diagnosis Crohn diseases complicated with HPS in Peking University 3rd hospital and review of literature. The underlying diseases, clinical features, laboratory findings, diagnosis and treatment outcomes were retrospectively analyzed. **Results:** The patient was a middle-aged male. He suffered from acute upper respiratory infection with fever during taking corticosteroids. Meanwhile, he had hepatosplenomegaly. Laboratory data mainly manifested with cytopenia, liver dysfunction, hypofibrinogenemia, hypertriglyceridemia, serum ferritin >500 μg/L and hemophagocytosis in bone marrow. Based on treating underlying infections and use of corticosteroids and VP-16 in combination with intravenous immunoglobulins therapy, the patient died yet. **Conclusion:** HPS in Crohn diseases is rare. Infection must be on the alert in immunocompromised host taking corticosteroids, especially in Crohn disease.

**Key Word(s):** 1. Crohn disease; 2. Hemophagocytic; 3. Diagnosis; 4. Therapy;

**PR0322**

**IBD**

**Optimal duration of maintenance treatment with azathioprine in patients with inflammatory bowel disease**

**Presenting Author:** ROBERTA PICA

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**Corresponding Author:** ROBERTA PICA

**Affiliations:** IG-IBD

**Objective:** Azathioprine (AZA) is frequently used in inflammatory bowel disease (IBD) for inducing and maintaining remission. This study aimed at comparing the incidence of disease recurrence after withdrawal of AZA in two groups of IBD patients treated for a different length of time.

**Methods:** Consecutive IBD outpatients referred in our Institution, between 1999–2004, were reviewed and patients treated with AZA were included in the study. **Results:** Seventy-nine IBD patients, 56 affected by Crohn’s disease (CD) and 23 by ulcerative colitis (UC), treated for more than 6 months with AZA were analyzed. Patients were divided into two groups: group A (50 patients) treated with AZA for less than 48 months (range 6–47 mo.) and group B (29 patients) treated for 48 months or more (range 48–157 mo.). Both groups had a similar follow-up duration after withdrawal of AZA (group A mean 22.43 ± 20 SD mo., group B mean 24.9 ± 21.3 SD months). The incidence of disease recurrence was higher in group A (29 patients, 59%) than group B (9 patients, 31.03%) (p = 0.0347). Group B showed a mean time to onset of relapse significantly shorter than group A (3.85 ± 2.1 vs 14.96 ± 11 : 07 mo, p < 0.001) and 6 patients (66.6%) needed use of steroids during AZA treatment versus 7 patients (24.14%) of group A (p = 0.0401). **Conclusion:** The risk of disease recurrence in IBD patients treated with AZA for more than four years is significantly reduced. In this patients the need for corticosteroids during maintenance therapy seems to be a negative predictive factor for an early timing of relapses.

**Key Word(s):** 1. AZATHIOPRINE; 2. ULCERATIVE COLITIS; 3. CROHN’S DISEASE; 4. IBD;
PR0323
IBD
Study of autophagy on the pathogenesis of Crohn’s disease
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Additional Authors: QIN OUYANG
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Objective: The study aim to investigate the autophagy in the inflammatory intestinal epithelial cell (IEC) in the active CD patients. We will study how autophagy affect the expression of NF-κBp65 and TNF-α in order to search for new therapeutic strategy for CD. Methods: Clinical records of 15 patients with active CD were investigated. Both IHC and Western blot assays were performed to detect the expression of ATG16L1, LC3 and NF-κBp65 in the intestinal mucosa. The expression of ATG16L1 mRNA in the enteric mucosa were investigated by real time RT-PCR assay.

Results: Western blot examination showed that expression of ATG16L1, LC3 II and NF-κBp65 in the intestinal mucosa of patients with mildly to moderately active CD significantly increased compared with the controls (1.26 ± 0.48, 1.82 ± 0.62, 1.17 ± 0.31), while the expression of ATG16L1 and LC3 II of the severely active patients did not changed markedly. The expression of NF-κBp65 of the severely active patients were increased notably compared to that of mildly to moderately active CD. The results of ATG16L1, LC3 and NF-κBp65 by the IHC assay were consistent with those found in Western blot examination. The RT-PCR method indicated that ATG16L1mRNA expression in the intestinal mucosa of patients with mildly to moderately active CD were upregulated (11.1 ± 4.41 × 10⁻³) compared with those of controls (P < 0.01). Conclusion: The dysfunction of immune responses were correlated with the over activation of NF-κB in patients of active CD, which can result in exaggerated secretion of proinflammatory factors and induce or worsen the inflammation in the bowel. The autophagy of IEC in mildly and moderately active CD patients was somewhat induced, and it may be a immune response of the IEC against the gut flora and luminal antigen, while the expression of ATG16L1 and LC3 II were not significantly elevated in severely active patients. Therefore, manipulation of autophagy could have therapeutic merit for patients affected by CD.

Key Word(s): Autophagy; Crohn’s disease; NF-κB; ATG16L1;

PR0324
IBD
H. pylori associated to Irritable Bowel Syndrome
Presenting Author: ANTONIO BARRIOS
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Corresponding Author: ANTONIO BARRIOS
Affiliations: LAS TORRES CLINIC; LAS TORRES, CLINIC

Objective: To determine the role of H. pylori in the pathogenesis of Irritable Bowel Syndrome (IBS). We previously demonstrated that the presence of biliary acids in the stomach (Duodeno-gastric Reflux Disease, DGRD) changes the gastric pH, favoring the growth of H. Pylori, as this bacterium is sensitive to pH values bellow 4.5. We investigated that the presence of H. Pylori in the colonic mucosa in patients with IBD. Methods: Colonoscopy, Biopsy and Rapid Urease Test (CLO-Test). All patients have been diagnosed and treated for IBS, without any improvement. Results: Universe: 47 patients were studied. MALE: 21 (45%), FEMALE: 26 (55%). H. Pylori Positives 25 (53%), H. Pylori Negatives 22 (47%). One patient in this study, previously presented Colonic Carcinoma. Conclusion: All patients showed improvement, including the patient with Colonic Carcinoma, which in the beginning presented 99% of stricture and after one month of treatment, the stricture decreased to 50%. Accordingly, we consider that the presence of H. Pylori in the colonic mucosa is just another important co-factor in the pathogenesis of IBS and probably in the development of Colonic Carcinoma. Subjects were administered H. Pylori treatment.

Key Word(s): 1. IBD; 2. H. pylori; 3. Colonic Cancer; 4. CLOtest;

PR0325
IBD
The clinical trial for the treatment of ulcerative colitis with Bawei xilei san (BWXLS) enema
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Additional Authors: QIN OUYANG
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Affiliations: Department of Gastroenterology, West China Hospital

Objective: Ulcerative colitis (UC) is thought to result from inappropriate and ongoing activation of the mucosal immune system. In China, UC mostly affect left sided colon and topical therapy play a vital role in UC treatment. The trial was carried out to investigate the efficacy and safety of Bawei xilei san (BWXLS) enema, a compound of traditional Chinese herbal medicine and to explore the therapeutic mechanisms. Methods: A prospective randomized controlled trial was carried out. Patients with active left-sided mild to moderate UC from the outpatient clinic of West China Hospital from June, 2009 to October, 2010 were allocated alternatively into treatment group with BWXLS enema 1 g/60 ml and the control group with hydrocortisone enema 50 mg/60 ml for 4 weeks. The clinical, endoscopic and histologic manifestations were evaluated according to the protocols in the end of trial. The expression of TLR4, NF-κB and Ocludin were investigated immunohistochemically before and after the treatment.

Results: 103 patients were included. The clinical remission rate and response rate in the treatment group were 78.2% and 89.1% respectively and 58.3% and 72.9% in the control (p < 0.05). Endoscopically, mucosal healing rate was 59.9% in the treatment group and 31.3% in the control (p < 0.05). The histological remission and improvement rate in the treatment group were 46.2% and 65.5% respectively, but 27.1% and 58.3% in the control (p < 0.05). Comparing with pre-treatment, the expressions of TLR4 and NF-κB p65 were significantly decreased (p < 0.01), while the expression of Ocludin was significantly increased (p < 0.01). There were no statistical differences of the integrated optical density (IOD) value for the three makers between the two groups (p > 0.05). Conclusion: The BWXLS enema is effective and safe for patients with active mild to moderate UC. The mechanisms of effect might be involved in the inhibition of expression of TLR4 and NF-κB and upregulation of Ocludin to repair the mucosa barrier function.

Key Word(s): 1. ulcerative colitis; 2. mucosal healing; 3. TLR4; 4. NF-κB;
**PR0326**

**IBD**

**Observation on the efficacy of Xilei-san enema for ulcerative colitis**

**Presenting Author:** WU XIMING  
**Corresponding Author:** WU XIMING  
**Affiliations:** ying tan people's hospital

**Objective:** This study was intended to observe the security and validity in subjects with active ulcerative colitis treated by retention enema with Xilei-san.

**Methods:** A total of 68 hospitalized patients with UC which the main pathological changes is in the rectum, sigmoid colon and descending colon was included form Jan, 2011 to Dec, 2012, corresponding to the diagnostic criteria in the 2000 Chengdu national meeting on inflammatory bowel disease. Subjects were randomly assigned to True and Placebo, patients in True (n = 36) for received retention enema with Xilei-san includes 15 males and 21 females, with the mean age of 45.2; patients in Placebo (n = 32) includes 14 males and 18 females, with the mean age of 43.6, the two groups of patients have no statistical difference in the gender, age, clinical characteristics, course of disease and scope of lesions. (P > 0.05). Patients in True were treated with Salazosulfapyridine 3 g/day per os and given retention enema once every night, the solution of which was Xilei-san 3 g plus metronidazole 100 ml plus rice-water 50 ml, added the physiological saline to 250–500 ml, adjusting to body temperature, 2–4 weeks for one period of treatment. Patients in Placebo were treated in the same way except without Xilei-san, if the two groups of patients had serious bloody stools, they would received an enema of prednisolone (50–100 mg/dose). Record the changes in frequency of bowel movement, consistency of stool, degree of abdominal pain and the adverse effects before and after treatment.

**Results:** Results are shown in table (omitted), both treatments showed significant improvement in clinical, the adverse effects were within the normal range. **Conclusion:** Xilei-san enema for ulcerative colitis has no significant side effects and could be safe and effective. Xilei-san enema is better to a single metronidazole enema in this study and it could be an general drug in the treatment of active ulcerative colitis.

**Key Word(s):** 1. ulcerative colitis; 2. Xilei-san; 3. IBD

**PR0327**

**IBD**

**An analysis of 356 cases of ulcerative colitis**

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**Corresponding Author:** JUNXIA LI  
**Affiliations:** the first hospital Peking University

**Objective:** To analyze the characteristics of 356 cases of ulcerative colitis (UC) during 1997–2012 in First Hospital Peking University.

**Methods:** 356 cases of UC from inpatient and outpatient were analyzed respectively.

**Results:** In the total of 356 cases diagnosed in our hospital, the number of cases increased by 2.2 times over the past 7 years (97 patients were diagnosed from 1997 to 2004 while 216 patients were diagnosed from 2005 to 2012). The male is 194 and the female is 162. The male to female ratio was 1.19. The mean age at the diagnosis was 44.7 years (range 6–80 years, and the peak ages 30–50 years), 106 had histories of smoking, and 218 had alcohol history. Among the 356 patients, 148 (40.0%) were severe, 187 (33.3%) were moderate patients and 49 (7.7%) mild. Lesion range were described in 356 patients, 53 (14.89%) were proctosigmoiditis or proctitis, 187 (52.5%) left-sided colitis, 116 (32.58%) pancolitis. Symptoms are abdominal pain and bloody stools, 234 (65.7%) suffered from pain and 320 (89.9%) had bloody stools, 242 (67.9%) patients was treated in 5-ASA, 183 (51.4%) in corticosteroid, 20 patients in anti-TNF therapy. 31 patients in azathioprine, while surgery was performed in 15 patients. **Conclusion:** It can be seen that number of UC patients increased significantly in the past 7 years. The age of onset is relatively high. Males and females are nearly equally affected. No negative relation was found between smoking and severity of the disease. Lesions are commonly located to left side colon. 5-ASA and corticosteroid are widely used in the treatment of UC. Biologics and immunosuppressants start to us in our centre in recent years.

**Key Word(s):** 1. ulcerative colitis; 2. manifestation; 3. treatment

**PR0328**

**IBD**

**Prevalence of colorectal cancer in patients with ulcerative colitis**

**Presenting Author:** ZHANG QIN  
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**Affiliations:** Xijing Hospital of Digestive Disease

**Objective:** Ulcerative colitis associated colorectal cancer (UC-CRC) is a serious complication of UC. Meta-analysis from western estimated the risk for CRC in UC (cumulative incidence) to be 1.6% after 10 years, 8.3% after 20 years and 18.4% after 30 years of disease duration for all patients with colitis with an overall prevalence of 3.7%. But data from large populations were lack in China, and risk factors and the clinical features of UC-CRC patients were not well known. In our study, we retrospectively observed the malignant transformation of UC patients who had ongoing UC for more than six years in 11 Chinese medical centers.

**Methods:** A total of 1345 cases with UC whose course of disease more than 6 years in 11 medical centers all over China from January 2001 to December 2011 were enrolled. The prevalence of colorectal cancer in patients with ulcerative colitis was estimated, and the clinical characteristics of these UC-CRC patients were observed.

**Results:** Altogether, 21 in the 1345 cases were diagnosis with UC-CRC both by colonoscopy and biopsy pathology. In these cases, demographic analysis showed: 15 male patients (71.4%) and 6 female patients (28.6%); the median age was 58 years old, with distribution between the ages of 30–76 years. The patients’ medical history were 6–26 years. In 66.7% (14/21) of patients the lesions were extended to the entire colon. 19% (4/21) lesions were widely extend and 14.3% (3/21) were limited to the left colitis. 10 cases (47.6%) used 5-ASA, 7 cases (33.3%) used corticosteroid and 11 patients (52.4%) were in endoscopic follow-up. In addition, 1 case had a first degree relative with colorectal cancer, family history of IBD and merge PSB patients has not been found.

**Conclusion:** According to the results, we found the overall risk of cancer is consistent with that reported abroad. This study also confirmed that the longer the course of the disease and a wide range of UC intestinal inflammation lesions are two high risks of colorectal cancer in patients with UC. Whether the use of 5 – ASA and corticosteroid in patients with UC colorectal cancer protection, now has not yet been determined.

**Key Word(s):** 1. UC-CRC; 2. UC; 3. CRC
5 – amino salicylic acid, hormones, immunosuppressants, biological agents and received three operations, and all the treatment were ineffective. So we conducted autologous hematopoietic stem cell transplantation in October 29, 2012. Activity index (CDAI) was 153 before treatment. Cyclophosphamide were injected for two days from October 29, 2012. After 8 days, white blood cells showed decreased, and then we mobilized stem cells by subcutaneous injected granulocyte colony-stimulating factor. Peripheral blood stem cell apheresis were used to collect stem cell on November 11, 2012. We totally collected stem cell suspension 700 ml, mononuclear cells were isolated 4.34 × 108/kg and enriched target CD34+ cell count 7.4 × 106/kg was achieved. Continuous injection of cyclophosphamide 5 days and ATG 3 days later, white blood cells decreased, then hematopoietic stem cell reinfusion was conducted on December 13, 2012. 2 weeks later, the routine blood test of patient returned to normal.

**Results:** The patients were followed on a regular basis after 1 week, 1 month and 3 month, and the patient was in a stable condition without any treatment. **Conclusion:** Autologous hematopoietic stem cell transplantation is a new safe and effective treatment method in patients with refractory Crohn’s Disease

**Key Word(s):** 1. stem cell; 2. Crohn’s Disease;

### PR0330

**IBD**

(-)-Epigallocatechin-3-gallate ameliorates trinitrobenzene sulfonic acid-induced colitis in rats

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**Affiliations:** First Affiliated Hospital of Fujian Medical University

**Objective:** (-)-Epigallocatechin-3-gallate (EGCG), the major bioactive polyphenol present in green tea, has been reported to have antioxidant and anti-inflammatory effects. However, the effects of EGCG on intestinal inflammation and the molecular mechanisms responsible are poorly understood. The aim of this study was to evaluate the therapeutic effects of EGCG on colitis induced by 2,4,6-trinitrobenzene sulfonic acid (TNBS) in rats, and its possible mechanisms.

**Methods:** Colitis was induced by intrarectal instillation of TNBS in 50% ethanol in Sprague-Dawley male rats. 12 hours after colonic instillation of TNBS, EGCG with several doses (25, 50, 70 g/kg) was given by gastric gavage once daily for 7 days. The disease activity index (DAI), macroscopic score, microscopic score, myeloperoxidase (MPO) activity and malondialdehyde (MDA) levels in colon tissues were subsequently evaluated. Caspase-1 expression in colonic mucosa was also detected by immunohistochemistry. Furthermore, the levels of interleukin-1β (IL-1β) and IL-18 in the serum were measured by enzyme-linked immunosorbent assay (ELISA).

**Results:** Comparing with the 0.9% NaCl-treated rats with TNBS-induced colitis, EGCG-treated rats with TNBS-induced colitis were shown improvements of DAI, macroscopic score, microscopic score, MPO activity and MDA levels. Consistent with these findings, caspase-expression in colonic mucosa was also suppressed in the EGCG-treated group. Moreover, treatments with EGCG decreased the up-regulated levels of IL-1βand IL-18 in the serum caused by TNBS. However, these parameters were found to be significantly ameliorated in rats treated with EGCG at given doses, especially at 50 mg/kg and 75 mg/kg.

**Conclusion:** Our results suggested that, at the appropriate dose, EGCG could ameliorate colon inflammation of TNBS-induced colitis. The therapeutic effect of EGCG in treating colitis might be related to the reduction of the colonic caspase-1 expression, and the decrease in the serum levels of IL-1β and IL-18.

**Key Word(s):** 1. caspase-1; 2. colitis; 3. interleukin-1β; 4. interleukin-18; 5. trinitrobenzene sulfonic acid-induced colitis; 6. (-)-Epigallocatechin-3-gallate; 7. rats

### PR0331

**IBD**

**Genotype-phenotype association study validated PRDM1 as a CD susceptibility gene**

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**Objective:** The focal SNP rs7746082 is located in a confirmed Crohn’s disease (CD) susceptibility locus on 6q21. Within 500 kb of this locus only two genes, PRDM1 encoding BLIMP1 and ATG5 (a key autophagy gene), are present. Both of them have been implicated in CD susceptibility. This study aimed to explore which candidate gene is regulated by genetic variation at rs7746082.

**Methods:** The project was mainly based on genotype-phenotype association study in healthy controls. Its four sections were expanded step by step following its findings. Section 1 was to investigate genotype-phenotype association between genotype at rs7746082 and PRDM1 & ATG5 transcription in terminal ileum via qPCR. Section 2 explored which cell type the identified susceptibility gene is expressed in intestinal biopsies via immunohistochemical (IHC) double staining. Section 3 investigated the found genotype-phenotype association in purified peripheral blood cells via qPCR. Section 4 explored whether genotype at rs7746082 is associated with peripheral T lymphocyte phenotype via flow cytometry (FCM).

**Results:** Genetic variation at rs7746082 was related to expression of PRDM1 (p < 0.0001) not ATG5 (p > 0.05) in terminal biopsies between CC and GG genotype. Double IHC further found that PRDM1 was expressed in neither enterocytes nor B lymphocytes, but in both T lymphocytes and plasma cells in lamina propria. Given potential confounding by the mixed cell population present in intestinal biopsies, the correlation of PRDM1 with genotype at rs7746082 was further investigated in purified peripheral blood cells. Genetic variation at rs7746082 significantly correlated with PRDM1 expression in freshly isolated PBMCs and CD4+CD45RO+ T cells (p = 0.0012 and p = 0.0125, respectively), but not in CD4+CD45RO- T cells (p > 0.05). After 5 days of T cell stimulation, PRDM1 expression substantially increased in all cell samples, but the correlation significantly diminished. PRDM1 expression was modestly associated with this SNP in PBMCs (p = 0.048), but not in CD4+CD45RO+ or CD4+CD45RO- T cells (p > 0.005 for both).

It is reported that BLIMP1 (encoded by PRDM1) regulates peripheral T cell phenotypes. Our FCM study in section 4, however, found that T cell phenotypes did not exhibit a significant difference between CC and GG groups in either CD4+ or CD8+ T cells regardless of T cell stimulation.

**Conclusion:** This study confirmed that PRDM1 is the causal gene in a CD susceptibility locus identified via GWAS on 6q21. Peripheral T cell phenotypes did not correlate with genotype at rs7746082, although BLIMP1 regulates peripheral T cell phenotypes. More studies are needed to explore how this SNP contributes to IBD susceptibility.

**Key Word(s):** 1. PRDM1; 2. Crohn’s disease; 3. genotype; 4. phenotype;
PR0332

IBD
The platelet-crit is a valuable biomarker for active crohn’s disease

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Objective: Platelet-index is a sub-set of parameters of standard full blood count test, measuring the variability size of thrombocytes. We investigated whether platelet-index are biomarkers of active disease in patients with Crohn’s disease (CD).

Methods: We performed a retrospective study, in order to examine if platelet-index variation could be biomarkers of active CD. In total, 89 patients with Crohn’s disease (CD) were enrolled in the study group, and 20 age- and sex-matched healthy volunteers were included as the control group. A CD activity index >150 in patients with CD indicated active disease. In addition to platelet-index including platelet counts (PLT), mean platelet volume (MPV), platelet distribution width (PDW), platelet large cell ratio (P-LCR) and platelet-crit (PCT), high sensitive serum C-reactive protein levels (hs-CRP), erythrocyte sedimentation rates (ESR) and red cell distribution width (RDW) were measured.

Results: The PLT, PCT and PDW level were significantly higher in patients with active CD than in normal controls and in remission patients. (p < 0.001), PLT (r: 0.261 p < 0.001), PDW (r: -0.232 p: 0.002) and PCT (r: 0.268 p < 0.001) had a significant correlation with CD disease activity. A ROC curve analysis indicated that for a PCT cut-off of 0.285, the sensitivity for detecting active CD was 67%, and the specificity was 63% (area under curve [AUC], 0.672; p < 0.001). PCT was the third sensitive and specific marker for active CD only weaker than hs-CRP and ESR. In those patients whose hs-CRP were lower than 10 mg/L, PCT turned to be a valuable biomarker for active crohn’s disease.

Conclusion: Current guidelines recommend total proctocolectomy in patients with UC who develop CRC. Our study suggests that partial colectomy may be a viable option, especially in older patients with close endoscopic surveillance, as about one-fifth of the cohort developed recurrent lesions and all of these were detected prior to any metastasis.

Key Word(s): 1. Colorectal cancer; 2. partial colectomy; 3. ulcerative colitis;

PR0334

IBD
A case of concurrent psoriatic arthritis and crohn’s disease

Presenting Author: BONG OH MA
Additional Authors: DAE HYEON CHO, HAEJIN YANG, KWANG MIN KIM, SANG GOON SHIM
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Objective: Crohn’s disease (CD) is a chronic relapsing inflammatory disorder of the gastrointestinal tract. It may have a number of extra-intestinal manifestations including psoriasis. However, few have evaluated the association between psoriatic arthritis (PsA) and CD. Herein, we present a case of 52-year-old woman with concurrent PsA and CD.

Methods: A 52-year-old woman was referred to our hospital for experiencing abdominal pain and watery diarrhea for 2 weeks. She had been diagnosed with psoriatic arthritis for 1 year in our rheumatology department and managed well. Results: The abdomen was distended and there were no gross bloody diarrhea. Abdominopelvic computed tomography revealed edematous wall thickening of the entire colon with large amounts of ascites. Fluid analysis from paracentesis was consistent with transudate. After fluid administration and antibiotic therapy, the patient became stable and colonoscopy was carried at 2 weeks. Ulcers with scars were noted at the terminal ileum and ileocolic valve. Large longitudinal ulcers and inflammatory polyps were also noted from entire colon with a segmental pattern. Colonic histopathology of biopsies demonstrated the inflammation involved the mucosa and submucosa with granulomas supporting the diagnosis of CD. Following consultation with a rheumatologist, treatment with prednisone 30 mg/day, mesalazine 3 g/day and azathioprine 50 mg/day was introduced. After 3 weeks of intensive immunosuppressive therapy, there were marked improvements in clinical presentation of Crohn’s disease. And the patient’s manifestation with psoriatic arthritis is also stabilized with immunosuppressive therapy. Conclusion: Both psoriatic arthritis (PsA) and Crohn’s disease (CD) are well-recognized autoimmune diseases, for which T helper cell plays a crucial role in sustaining chronic inflammation. T helper 17 cells and interleukin (IL) 23 serve as a key regulator in these autoimmune inflammatory diseases. Genes implicated in the IL 23 pathway have been commonly associated with PsA and CD. Here we report on a rare case of PsA associated with CD. Further...
studies are needed to elucidate the interplay of these immune disorders in the concurrent occurrence of PsA and CD.

**Key Word(s):** 1. Crohn’s disease; 2. Psoriatic arthritis;

**PR0335**

**IBD**

Clinical comparison between the ulcerative colitis patients with onset in the elderly and youth-middle aged

**Presenting Author:** LICHUAN FENG

**Corresponding Author:** LICHUAN FENG

**Affiliations:** Third Hospital of Peking University

**Objective:** To analyze the difference between the ulcerative colitis (UC) patients with onset in elderly and youth-middle aged

**Methods:** A review analysis was in the 178 UC in-patients of Third Hospital of Peking University from 1994 to 2010. 260 years old were in elderly group; <60 years old were in youth-middle group.

**Results:** The elderly group consisted of 27 patients (21 men and 7 women). The youth-middle group consisted 151 patients (83 men and 68 women). The ratio of male and giving up smoke in elderly group (77.8%,33.3%) is higher than that of youth-middle group (55.0%, 8.6%, P < 0.05). No significant difference in the ratio of first onset and relapsing type between two groups. The ratio of abdominal pain in elderly group (44.4%) is higher than that in youth-middle group (78.8%) (P < 0.05). No significant difference of other symptoms and lab test were observed between two groups. The grade of endoscopy: There is no significant difference in the ratio of Grade I between the two groups, the ratio of Grade II (59.3%) in the elderly is much higher than that in youth-middle group (35.8%) (P < 0.05), but the ratio of Grade III and IV (29.6%) is much lower than that in young-middle group (60.1%) (P < 0.05). No significant differences between the two groups in the extent of disease, pathology and therapy.

**Conclusion:** Compared with youth-middle patients, in the elderly patients the ratio of male and giving up smoke is higher, the ratio of abdominal pain was less, and the endoscopic manifestation was less severe.

**Key Word(s):** 1. ulcerative colitis; 2. elderly aged; 3. youth-middle aged; 4. onset;

**PR0336**

**IBD**

To explore the effects and mechanisms of total glucosides of peony to mice of DSS-induced ulcerative colitis

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**Objective:** To study the effects of total glucosides of peony (TGP) on NF-κB, TNF-α, MFG-E8, Occludin in the intestinal mucosa of the acute stage ulcerative colitis mice which induced by DSS and evaluate the effectiveness and mechanisms of TGP in UC therapy.

**Methods:** Fifty-four mice were equally randomized into 6 groups (n = 9), normal control group, model control group, salazosulfapyridine (SASP) group (300 mg/kg-1·d-1), low-dose TGP group (60 mg/kg-1·d-1), medium-dose TGP group (120 mg/kg-1·d-1) and high-dose TGP group (240 mg/kg-1·d-1). The normal control group were given distilled water, while other groups were given 5% DSS solution for 7 days to induce the acute ulcerative colitis. After that, the normal control group and model control group were perfused a stomach each with 0.5 ml of distilled water for 7 days, while other groups were perfused a stomach with corresponding dose for 7 days. Then, we graded each groups by activity index (DAI), histological index (HI) and measured the level of Milk fat globule-epidermal growth factor 8(MFG-E8), occludin, Nuclear factor-kappa B (NF-κB), tumor necrosis factor-α (TNF-α) by Immune histochemical method.

**Results:** Results: After 7 days treatment, compared with the model control group, the DAI and HI score was significantly decreased in SASP group, medium-dose TGP group, high-dose TGP group (p < 0.05), but was similar to that in the low-dose TGP (p > 0.05), and their score of high-dose TGP group lower than SASP group and medium-dose TGP group (p < 0.05). Compared with the model control group, the expression of NF-κB p65, TNF-α, MFG-E8, occludin of intestinal mucosa had statistical significance in normal control group, SASP group, medium-dose TGP group, high-dose TGP group (p < 0.05), but was similar to that in the low-dose TGP (p > 0.05). Compared with SASP group and medium-dose TGP group, the expression of theirs had statistical significance in high-dose TGP group (p < 0.05). Compared SASP group and medium-dose TGP group had not statistical significance (p > 0.05), and the similar to that in the normal control group between high-dose TGP group (p > 0.05)

**Conclusion:** Conclusion: TGP has certain therapeutic effects on experimental ulcerative colitis and related to the TGP dosage, the high-dose TGP group was better than others group. It may be achieved by its inhibitory effect on the expression of NF-kB and TNF-α, and which was beneficial to restore intestinal mucosa barrier structure.

**Key Word(s):** 1. DextranSulfateSodium; 2. ulcerative colitis; 3. NF-kB; 4. TNF-α;

**PR0337**

**IBD**

The clinical value of the improved nasal jejunal tube enteral drip in the treatment of crohn’s disease

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**Objective:** Objective: To observe the effect of the improved nasal jejunal tube enteral drip (INJTED) on the treatment of crohn, and evaluating INJTED clinical value by comparing with the traditional oral method.

**Methods:** Methods: 80 crohn patients were randomly divided into two groups: the control group with oral medication (n = 40), the experimental group with INJTED (n = 40), manifestations and endoscopic features of which were observed after treatment for 2 weeks, 4 weeks. The curative rate, total effective rate (TER) and the correlation between the severity of crohn and therapeutic effect of two groups were analyzed.

**Results:** Results: TER after treatment for 2 weeks was 80% in the mild experimental group, 4 weeks was 100%, compared with the control group 70%, 95%, there were no statistically significant differences (P > 0.05), and the similar to that in the severe experimental group, 4 weeks was 87.5%, compared with the control group 43.7%, 68.7%, differences had statistical significance (P < 0.05). TER after treatment for 2 weeks was 62.5% in the moderate experimental group, 4 weeks was 87.5%, compared with the control group 43.7%, 68.7%, differences had statistical significance (P < 0.05). TER after treatment for 2 weeks was 42.8% in the severe experimental group, 4 weeks was 78.5%, compared with control group 28.5%, 57.1%, there were statistically significant differences (P < 0.05).

**Conclusion:** Conclusion: INJTED in crohn had a better therapy effect than traditional oral medication, especially for patients with medium and severe crohn, but no difference for mild crohn. So INJTED was more suitable for medium and severe crohn patients, especially with incomplete intestinal obstruction, poor diet or no diet.

**Key Word(s):** 1. crohn’s disease;
The effect of melatonin treatment on DSS induced colitis and probable mechanism by microarray

**Objective:** There are complex and various causes in the pathogenesis of inflammatory bowel disease. Stressful condition has reported aggravation or reactivation of inflammatory bowel disease. Thus, we tried to investigate the effect of stress caused by sleep deprivation (SD) on DSS induced colitis model. Also, we designed to evaluate the mechanism of melatonin on such condition by gene expression after melatonin treatment. **Methods:** We used the 5 groups of C57BL/6 mice. Group I: control, Group II: 2% DSS induced colitis for 7 days, Group III: 2% DSS induced colitis and melatonin treatment, Group IV: 2% DSS induced colitis with sleep deprivation (SD, 20 hr/d) and Group V: 2% DSS induced colitis with SD and melatonin treatment. Specially designed modified multiple platform water baths for sleep deprivation were used. Melatonin (10 mg/kg) or saline was injected daily by intraperitoneal route. The mice were sacrificed after finishing administration of melatonin or saline for 4 days. We checked body weight and stool color daily. Degree of colitis was evaluated after H&E stain. Also proinflammatory cytokines from serum were checked using Bio-Plex Pro Mouse Cytokine assay kit (Bio-Rad, Hercules, CA, USA). RNA was isolated from the colon of mice in each group and collected to analyze by microarray and ontology. We confirmed significant changes of expression of important genes by RT-PCR and immunohistochemical staining. **Results:** Sleep deprivation worsens body weight reduction of mice and exacerbate the severity of colonic inflammation. Administration of melatonin reduced the rate of weight loss and severity of mucosal injury compared with saline injection group. Increased expression of proinflammatory cytokines such as IL-6, TNF-α, IFN-γ was significantly reduced with melatonin supplementation. About 68 genes were significantly changed by 2% DSS, sleep deprivation and melatonin in microarray. In real time PCR there are significant change of adipoq and Aqp8 gene, which are related with adiponectin and aquaporin-8 protein. We also performed immunohistochemical stain of adiponectin and aquaporin-8. **Conclusion:** Sleep deprivation acts as an aggravating factor, whereas melatonin acts as an improving factor of inflammation. This study shows melatonin affects both inflammation and sleep control. Especially genetic microarray study revealed that melatonin may regulate inflammation by modulating adiponectin and aquaporin pathway in DSS induced colitis.

**Key Word(s):** 1. adiponectin; 2. aquaporin; 3. DSS induced colitis; 4. melatonin;
avoiding IFX dose intensification was significantly higher in CD patients (p = 0.006). In the multivariate analysis, disease (UC vs CD) was the only factor significantly associated with dose intensification. The costs per patient per kg were significantly higher in UC patients than in EC (p < 0.001). In the multivariate analysis, only the need for IFX dose intensification was associated with increased cost (p = 0.001). Conclusion: Direct (one-year) cost of IFX is significantly higher in patients with UC compared with CD patients. The increased costs of IFX in the UC cohort was driven by the higher rate per month of UC patients who needed IFX dose intensification. Our data provide a rational basis for economic planning in patients with ulcerative colitis selected for IFX therapy.

Key Word(s): 1. infliximab; 2. Crohn’s disease; 3. costs; 4. intensification;

PRO341
IBD
Enteroanitary fistulas treated with anti-TNF: outcomes and predictors of response
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Objective: The success of medical treatment for entero-urinary fistulas (EUFs) in Crohn’s disease (CD) has so far been modest and surgery is the standard treatment. The advent of anti-tumour necrosis factor (TNF) therapy has provided a powerful new potential treatment option. The aim of this study was to evaluate the effectiveness and predictors of response of anti-TNF therapy for inducing remission of EUF in CD patients and avoiding the need for surgery. Methods: In this multicentre observational study a retrospective search was performed for CD patients with EUF in whom the aim is to avoid surgery. There was a trend in favour of the concomitant use of IMM.

Key Word(s): 1. enteroanitary fistula; 2. Crohn’s disease; 3. infliximab; 4. adalimumab;

PR0342
Immunological Liver Diseases
(AIH, PBC, PSC)
Noval syngenic liver hapten protein compounds in pathogenesis of autoimmune hepatitis in mouse
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Objective: Background: The pathogenesis of autoimmune hepatitis (AIH) is poorly understood. The AIH model in mice induced with hapten S100 and adjuvant has been developed to elucidate the mechanisms. Syngenic hapten S100 is a crude protein compound, from which three peak proteins (peak I, peak II and peak III protein) can be separated. There is a hypothesis suggesting that these separated peak proteins derived from hapten S100 may be involved in the immunological reactions through T-cell pathway in experimental autoimmune hepatitis (EAIH). Objective: To test the effect of hapten S100 and its three peak proteins on immunological reactivity of EAIH in mouse models. Methods: EAIH models in C57BL/6 mice were induced with syngenic hapten S100 liver proteins and the three separated peak proteins emulsified covalently in complete Freund’s adjuvant (CFA) through intraperitoneal injection once a week for 4 weeks. CFA alone and saline were used as controls (5 mice in each group, altogether 6 groups). At one week after the forth challenge, the livers of the mice were sent for histopathological examination. Severity of histological damage was graded according to the strength of inflammatory cell infiltration and liver cellular necrosis. TNF-α and INF-γ levels in supernatant fluid released from lymphocytes of the spleens were also measured. Results: The EAIH model in mice induced with peak II protein plus CFA and S100 plus CFA had significantly higher histological grades (2.8 and 2.6 on average) than those induced by peak I proteins plus CFA and peak III proteins plus CFA or by CFA alone and saline alone (2.2, 1.6, 1.0 and 0.2 respectively) (p < 0.05). T-cell reactivity increased after the stimulation with hapten peak I protein as compared with those of other groups. TNF-α and INF-γ levels in supernatant fluid from the lymphocytes of the spleens were increased significantly with the development of EAIH (p < 0.05). Conclusion: These separated peak proteins had different immunopathological potentials on the pathogenesis of EAIH with peak II protein being more liver-specific than the others.

Key Word(s): 1. liver; 2. autoimmune; 3. autoantigen;
Elevated liver enzymes.

Analysis of autoantibodies in 103 patients with elevated liver enzymes

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Objective: To investigate the clinical value of detection of autoantibodies in 103 patients with elevated liver enzymes. Methods: three group patients (103 patients with elevated liver enzymes, 85 patients with chronic hepatitis B, 80 healthy subjects) were examined for autoantibodies respectively. Anti-nuclear antibody (ANA), anti-mitochondrial antibody (AMA) and anti-smooth muscle antibody (SMA) were tested by indirect immunofluorescence; Antibodies to soluble liver antigen/liver pancreas (SLA/LP), liver kidney microsomal type I (LKM-I), liver cytosol type I (LC-I) and mitochondrial type II (AMA-M2) were tested by Western blot.

Results: Among 103 patients with elevated liver enzymes, LKM-I was positive in 2 patients and SLA/LP in 1 patient and AMA-M2 in 3 patients. The positive rates of ANA, AMA, SMA in chronic hepatitis B group were 34.9%, 8.7%, 12.6% respectively; that in control group were 12.9%, 1.1%, 2.3% respectively; that in patients with elevated liver enzymes group were 5.0%, 0, 0 respectively. The positive rates of ANA, AMA, SMA in patients with elevated liver enzymes has an important significance in clinical diagnosis.

Immunological Liver Diseases (AIH, PBC, PSC)

Conditional analysis identifies two MHC loci associated with primary biliary cirrhosis

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Objective: Primary biliary cirrhosis (PBC) is an autoimmune liver disease, which affects approximately 1 in 1000 women over the age of 40. Many studies have supported the evidence that genetic predisposition has a critical role in the development of PBC. Identification of PBC susceptibility genes is the key to understanding its pathogenesis and improving its treatment. By using recent genome-wide association studies (GWAS), a number of loci have been identified as risk factors for the development of PBC. Among them, the major histocompatibility complex (MHC) harbors the PBC susceptibility region which exhibits the greatest effect size on the development of PBC. HLA-DRB*08:01 has been studied for many years and been known to confer the largest genetic effect. Recent GWA studies have also identified other PBC associated HLA alleles, including HLA-DQB*06:02, HLA-DQB*03:01 and HLA-DRB*04:04. However, the extensive linkage disequilibrium across the MHC region hampered the identification of potential independent risk loci. Methods: We used data from our previously reported GWAS, composed of 1840 PBC cases and 5175 geographically matched controls, as a discovery analysis set. Another previously reported GWAS composed of 453 PBC cases and 936 geographically matched controls, as a replication analysis set. Classical I and II HLA alleles were imputed by HLA*IMP. The analysis region was performed on all SNPs passing quality control within the extended MHC region, defined as the ~8 Mb interval between SCGN and RPL12P1 (Build 37, chr6: 25 625 429–33 368 333). Conditional and stepwise logistic regression was performed using the ‘condition’ function in PLINK to determine whether independent effects existed. Results: After the imputation of classical alleles and SNPs and the removal of redundant SNPs (r^2 = 1 with another SNP), the data set contained 56013 SNPs (of which 2239 had been experimentally genotyped) together with 83 variables representing the class I and II HLA alleles. Briefly, starting with HLA-DRB*08:01, HLA-DQB*06:02, HLA-DQB*03:01 and HLA-DRB*04:04, which have been reproducibly associated with PBC, we conditioned candidate HLA alleles on these four HLA alleles to determine the next most significant independent effect. We observed and replicated two additional independent signals for disease association. We detected evidence for association at SNPs rs3135024 (5.75E-27) and rs116518618 (1.93E-08), located within the class III region of the MHC, with each observation replicated in an independent sample (P ≤ 0.05). Conclusion: The large number of genetic markers and individuals facilitate identifying the independent effects in MHC region. However, further fine-mapping and functional characterization of these association signals are needed to clarify significant mechanistic insights into the dysregulation of immune responses in PBC

Key Word(s): 1. HLA-C; 2. Polymorphism; 3. PBC; 4. conditional analysis;

Table 1. Independent association signals in the discovery dataset from stepwise conditional analysis, using both SNPs and HLA class I and II alleles

| ID          | Position(bp) | MAF(Case) | MAF(Control) | Single marker | Odds ratio | 95% Cl     | Conditional | Conditional |
|-------------|--------------|-----------|--------------|--------------|------------|------------|-------------|-------------|
| Build 37    | P value      | P value   | Odds ratio   |              |            |            |             |             |
| HLA-DRB*08:01 | 31 478 898–32 191 844 | 0.058     | 0.019        | 2.16E-26     | 3.20       | 2.58–3.96  |             |             |
| HLA-DQB*06:02 | 31 478 898–32 191 844 | 0.092     | 0.126        | 3.36E-11     | 0.65       | 0.58–0.74  |             |             |
| HLA-DQB*03:01 | 31 478 898–32 191 844 | 0.148     | 0.184        | 7.35E-07     | 0.77       | 0.69–0.85  |             |             |
| HLA-DRB*04:04 | 31 478 898–32 191 844 | 0.069     | 0.050        | 4.19E-05     | 1.42       | 1.20–1.67  |             |             |
| rs3135024   | 33047466     | 0.350     | 0.238        | 7.79E-39     | 1.76       | 1.61–1.91  | 5.75E-27    | 1.68        |
| rs111523373 | 31239050     | 0.366     | 0.289        | 8.93E-12     | 1.36       | 1.24–1.48  | 1.19E-10    | 1.40        |
| rs116328554 | 33047464     | 0.034     | 0.015        | 1.72E-11     | 2.28       | 1.80–2.90  | 5.96E-06    | 1.98        |
| rs115427566 | 30377826     | 0.225     | 0.192        | 1.59E-05     | 1.23       | 1.12–1.34  | 3.69E-06    | 1.35        |
| rs116518618 | 32594998     | 0.052     | 0.070        | 2.49E-04     | 0.73       | 0.62–0.87  | 1.93E-08    | 0.52        |
A pilot metabolomics study of primary biliary cirrhosis and autoimmune hepatitis

**Objective:** Primary biliary cirrhosis (PBC) and autoimmune hepatitis (AIH) are two autoimmune liver diseases. The serologic hallmark of PBC, Antimitochondrial antibody (AMA), is negative in 5–10% PBC patients and often cause missed diagnosis. The differential diagnosis of AIH is very complex. Our research utilizes metabolomics methodology to explore novel biomarkers of PBC and AIH. **Methods:** 18 PBC patients, 13 AIH patients and 14 controls were enrolled in our study. The fast plasma samples of the participants were analyzed by ultrafast liquid chromatography coupled with tandem mass spectrometry. The mass spectrometry data was manipulated through peaking finding, filtering, peak alignment, “80% rule” correction, normalization and Pareto scaling successively. PCA model was built to visualize the distribution of patient group and control. OPLS model was further referred for biomarker selection. **Results:** The distribution of PBC patients and control were different in PCA model. 21 novel biomarkers of PBC were found based on the OPLS model, with the m/z value of 193.1394, 286.2021, 469.3126, 464.2840, 465.2879, 478.2931, 516.3006, 517.3039, 528.3119, 533.3057, 756.5549, 802.5372. The distribution of AIH patients and control were different in PCA model. 14 novel biomarkers of AIH were found, with the m/z value of 286.2024, 469.3126, 494.3247, 495.3280, 508.3410, 510.3558, 511.3591, 522.3570, 523.3586, 526.3758, 798.5630, 992.6764, 992.6765. **Conclusion:** Our research found several novel biomarkers of PBC and AIH. Further research is needed to identify the structure and verify the reliability of these biomarkers.

**Key Word(s):** 1. PBC; 2. Autoimmune hepatitis; 3. Metabolomics;
3000 patients 331 patients had acute LD and remaining 2669 patients had chronic liver disease (CLD). All these patients were evaluated by biochemical parameters, virological studies, imaging endoscopy as and when required. LB was performed when no conclusion could be drawn from the non-invasive work up. Etiology of chronic hepatitis at our centre, hepatitis B (HBV) 66 %, hepatitis C (HCV) 17% Autoimmune 7.5%, while cryptogenic 1.6%. Etiology of cirrhosis was alcoholic 32%, HBV 19%, HCV 14% and autoimmune 6.3%, cryptogenic 18%. Etiology of acute liver disease was as follows: Hepatitis A 9%, HBE 37%, HBV 8 %, and drugs 6.9%. Out of these, 3000 patients LB was done on 176 patients (58.86%, male 116, age 20–65 years) LB was performed with biopsy gun under ultrasound guidance. Patients with platelet count <50,000, with ascites and overt bleeding were excluded. Patients were not excluded even INR >1.5.

No prophylactic use of fresh frozen plasma and platelet transfusion was done. 38 patients (21.5%) had platelet count ranging from 50,000 to 1,00,000. 28 patients (16%) had prothrombin time (PT) INR >1.5 (range 1.6–4). There was no major complication related to the procedure. Indications for LB were as follows : Autoimmune hepatitis 30, cryptogenic LD 38, drug induced LD 4, evaluation of portal hypertension 15, mass lesion in the liver and lymphoma 29, elevated liver enzymes 11, hepatitis B infection 35, hepatitis C infection 9, other miscellaneous indications were Primary biliary cirrhosis, primary sclerosing cholangitis, drug induced liver injury, sepsis related cholestasis, sarcoidosis, amyloidosis etc.

Results: LB changed the diagnosis in 55(27%). Patients in this category were evaluation of portal hypertension 15, elevated liver enzymes 11, cryptogenic 24 and other diagnosis were cholestatic liver disease, amyloidosis and myeloproliferative disorders. In remaining patients LB confirmed clinical diagnosis and helped in making management decisions

Conclusion: 5–6% patients with LD need biopsy, LB is safe even in presence of low platelet count and abnormal INR. 1/4th of the patients undergoing LB change the clinical diagnosis.

Key Word(s): 1. Autoimmune; 2. Cryptogenic; 3. amyloidosis; 4. granuloma;

PR0348
Immunology/Microbiology (Basic)
Determination of organelle marker enzyme in blastocystis hominis
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Objective: To observe the process of collecting, transferring species and purifying and passing of Blastocystis hominis. To determine the organelle marker enzyme in B.hominis, then provide stable insect strains and research base for further study of morphology and function of B.hominis

Methods: Concentrated B.hominis strains via Aldehyde-ether method. DMEM medium was used to cultured B.hominis in vitro, and observed the biological characteristics; determined MTT colorimetry OD value of the growth curve; determined of the organelle marker enzyme of B.hominis by electron microscopic enzyme cytochemical method.

Results: 1. B.hominis is adherent growth. Passaged B.hominis thrive, has stable shape, such as round, oval. Vascular type is common. B.hominis growth curve present ‘S’ shape, went through three growth stages: incubation period, the logarithmic growth phase and stagnation. 3. Results of electron microscopic enzyme cytochemistry showed that the acid phosphatase enzyme, adenosine triphosphate (ATP) enzyme, thiamine pyrophosphate enzyme (TPP enzyme), peroxidase be positive, glucose-6-phosphatase, cytochrome oxidase were negative.

Conclusion: The, B.hominis contain part of the organelle marker enzyme.

Key Word(s): 1. Blastocystis hominis; 2. organelle enzyme; 3. DMEM medium; 4. morphology;

PR0349
Immunology/Microbiology (Basic)
Macrophage migration inhibitory factor –173 G/C polymorphism and the risk of IBD
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Objective: The role of the MIF –173 G/C gene polymorphism in the incidence of inflammatory bowel disease (IBD) is controversial.

Methods: We performed a meta-analysis including 2084 cases and 2284 controls for whom the MIF –173 G/C polymorphism was genotyped.

Results: Results show MIF –173 G/C gene polymorphism are associated with IBD in both the recessive model (CC vs. GG) and the codominant model (CC vs. CG). In the stratified analysis by ethnicity, a significantly increased risk was observed in Asians in the recessive model and the codominant model. In the subgroup analysis of ethnicity for UC, significant differences were observed in UC in the recessive model and the codominant model. In the stratified analysis of ethnicity for UC, significant differences were observed in Asians for the recessive model

Conclusion: The current meta-analysis suggested that the MIF –173 G/C polymorphism contributed to the susceptibility of IBD, especially for UC in Asians.

Key Word(s): 1. Macrophage migration; 2. G/C polymorphism; 3. IBD; 4. meta-analysis;

PR0350
Immunology/Microbiology (Basic)
Expression and subcellular localization of recombinant GW182-RFP, a Visible P-body maker, in Huh7 cells
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Objective: Our previous work showed that GW182, a processing body (P-body) component, is essential for hepatitis C virus (HCV) replication (HEPATOLOGY 2013;57:70–80). The aim of this study was to further investigate the expression and subcellular localization of recombinant GW182-RFP in human hepatocellular carcinoma cell line Huh7 cells.

Methods: The TNRC6A (GW182) gene encompassing nucleotides 115–6000 (5886bp) (GenBank Accession No. NM_014494) was amplified using primers with engineered restriction sites to facilitate the fusion of TNRC6A ‘inframe’ to the N terminus of red fluorescent protein (RFP) in the pTagRFP-N vector (Evergene) to construct fusion protein expression plasmid termed pTNRC6A-RFP. Forward primer (5’-GCGAGCTC ATGAGAAGATGGAGAAGCTGAGAAGC-3’) containing Sac I restriction site and reverse primer (5’-CGCCGGCGATGGACTCTCCACCCG-3’) containing Sac I restriction site were synthesized. The integrity of the plasmid pTNRC6A-RFP was verified by DNA sequencing. Lipofectamine 2000 (Invitrogen) was used for transfection of pTNRC6A-RFP into Huh7 cells and the subcellular localization was observed by confocal microscopy.

Results: The recombinant expression vector pTNRC6A-RFP (10585bp) was constructed successfully which was verified by DNA sequencing. Confocal microscopy analysis revealed that recombinant GW182-RFP showed intensely stained, punctate perinuclear cytoplasmic
structures consistent with P-bodies in Huh7 cells. **Conclusion:** The reconstituent expression vector pTNRC6A-RFP was established and the subcellular localization of GW182-RFP was consistent with that of P-bodies. The vector could be applied as a visible tool to further study the roles of GW182 played in HCV life cycle in future.

**Key Word(s):** 1. GW182; 2. TNRC6A; 3. RFP; 4. HCV;

**PRO351 Immunology/Microbiology (Basic)**
Conserved microRNA-122 recognition sequences in the NS5B of HCV genome in all genotypes

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**Objective:** Interactions between the liver-specific microRNA, miR-122, with two sites in the HCV 5′UTR have been shown to be essential to maintain HCV RNA abundance during virus infection in cultured cells and in infected chimpanzees. Both miR-122 binding sites in the HCV 5′UTR are highly conserved among all HCV genotypes. Very recently, a new miR-122 recognition elements with the inhibitory role in the NS5B region of the open reading frame (ORF) was identified (VIROLOGY, 2011, 336–344). The aim of this study was to investigate whether there was a new conserved miR-122 recognition sequence in the ORF of HCV genome.

**Methods:** Sequences of NS5B of different HCV genotypes of 191 strains were obtained from the HCV database (http://sivirus.mai.jp/HCV/). The complementary sequence (5′CACUCC3′) of miR-122 seed sequence (5′GGAGUG3′) was checked in all 191 strains with different HCV genotypes. **Results:** Among 191 strains with different HCV genotypes, 190 (99.48%) strains (genotype 1–6) contained the highly conserved miR-122 recognition sequence (5′CACUCC3′) in the NS5B region. The representative strain was Con1 (genotype 1b; GeneBank accession No. AJ238799; 9206–9211). While only one strain H77-H21 (genotype 1a; GeneBank accession No. AF011753; 9209–9214) contained the sequence (5′CACCCCC3′; U-to-C). **Conclusion:** Our results showed that there was a new conserved miR-122 recognition sequence in the NS5B region of HCV ORF. The exact role of this new conserved miR-122 recognition sequence played in HCV replication will be further studied in future.

**Key Word(s):** 1. HCV; 2. microRNA-122; 3. recognition sequence; 4. genotype;

**PRO352 Immunology/Microbiology (Basic)**
Impact of the intestinal barrier function and the TLR signaling pathways induced by the LPS

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**Objective:** To investigate the alterations of the intestinal barrier function and the Toll-like receptor (TLR)2,4 expressions in rat small intestinal epithelial cell line (IEC-18), demonstrates that the mechanism of intestinal epithelial cell immune defense function induced by the low-dose lipopolysaccharide derived from bifidobacteria and enteropathogenic Escherichia coli (EPEC). **Methods:** These experiment have six groups include normal control, IEC-18 were treated with the lipopolysaccharide derived from enteropathogenic Escherichia coli O127: B8. The concentration of 5 μg/ml and the superantigen were procured from the media of Bifidobacteria infants, Bifidobacteria longum, Bifidobacteria breve and Bifidobacteria youth by diluted 300 times. Transmonolayer electrical resistance (TER) was measured by the EVOM chopstick voltohmmeter every 30 minutes for 120 minutes of each groups. Expressions of mRNA of TLR2 and TLR4 were detected by real-time quantitative polymerase chain reaction (qRT-PCR) after the IEC-18 treated for 16 hours. Expressions of mRNA of TLR2 and TLR4 were detected by real-time quantitative polymerase chain reaction (qRT-PCR) after the IEC-18 treated for 16 hours. **Results:** The TER decreased in the B.infantis group, B.longum group, B.breve group and B.youth group were only19%, 18%, 23%, 23% after 120 minutes as compared to 67% in EPEC group. The mRNA expressions of TLR2 was 7.46 ± 1.277 times in EPEC groups higher than normal control group, but the changes of mRNA expressions in 4 strains bifidobacteria groups were 0.39 ± 0.12, 0.47 ± 0.43, 0.55 ± 0.27, 0.47 ± 0.25 times lower than normal control group. The alteration in B.breve group did not show statistical differences. Meanwhile, mRNA expressions of TLR4 in another 5 groups were 13.77 ± 1.27, 0.66 ± 0.20, 0.59 ± 0.11, 0.41 ± 0.34, 0.46 ± 0.37 times as compared to the normal control group. These changes of mRNA expressions of TLR4 show statistical differences in each group except B.infantis and B.longum group. **Conclusion:** In this study, bifidobacteria may protect intestinal epithelial cells against injury through enhancement of barrier function, as well as, the downregulation of the expression of TLR2 and TLR4 for protecting IEC from the pathogen.

**Key Word(s):** 1. lipopolysaccharide; 2. bifidobacteria; 3. toll-like receptor; 4. IEC-18;

**PRO353 Immunology/Microbiology (Basic)**
The relationship of VIP in gastric cancer with CD80, CD86 in the inflammatory cells of gastric cancer

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**Objective:** To observe the expressions of vasoactive intestinal peptide (VIP) proteins in the tissue of gastric carcinoma and normal gastric beside carcinoma, and CD80, CD86 proteins in the inflammatory cells. To evaluate the relations between VIP proteins in gastric carcinoma tissue and antigen presentation molecules in the inflammatory cells. **Methods:** 48 patients who received gastric cancer surgery from August 2011 to November 2011 at the First Affiliated Hospital of Nanchang University were enrolled in the current study. Gastric carcinoma tissue, normal tissue peripheral to the carcinoma, and patient information were collected from each patient. Immunohistochemical method was used to detect the expression of VIP protein in gastric carcinoma tissue and its normal peripheral tissue, and the expressional of CD80 and CD86 protein in the inflammatory cells of this cancer tissues. **Results:** 1. Among the patients who were enrolled in our study, 36 were male, 12 were female. The age of patients in this study ranges from 34 to 85, with an average of 59.4 ± 11.2. 24 of the patient age from 34 to 60, the other 24 were above 60 year old. Among these patients, the adenocarcinoma area of 19 cases located at the pyloric antrum, 29 cases at the body of stomach. 31 cases had lymph node metastasis, 17 cases had no lymph node metastasis. 25 cases were highly or moderately differentiated, 23 cases were poorly differentiated. 18 cases were in TNM stage I-II, and 30 cases were in TNM stage III-VI. 2. The positive expression rate of VIP in gastric carcinoma tissue (94%) was significantly higher than its normal peripheral tissue (77%)(P < 0.05). The expression intensity of VIP in gastric carcinoma was significantly higher than its normal peripheral tissue (P < 0.01). The VIP expression intensity in the patients with poorly differentiated degree, lymph node metastasis, or
TNM III to IV, was significantly higher than that of the patients with well-moderately differentiated, no lymphode metastasis, or TNM I to II respectively (P < 0.05). However the VIP expression intensity had not significant different in the sex, age, or cancer location (P > 0.05). The positive expression rates of CD80 in the inflammatory cells of gastric carcinoma tissue (33%) was significantly lower than that in normal peripheral tissue (60%) (P < 0.01). The expression intensity of CD80 in the inflammatory cells of gastric carcinoma was significantly lower than that in normal peripheral tissue (P < 0.01). The CD80 expression intensity in the inflammatory cells of gastric carcinoma in the patients with lymph node metastasis, or TNM III to IV, was significantly lower than that of the patients with no lymphode metastasis, or TNM I to II respectively (P < 0.05). However the CD80 expression intensity had not significant different in the sex, age, cancer location, or differentiation degree (P > 0.05) 4. The positive expression rates of CD86 in the inflammatory cells of gastric carcinoma tissue (35%) was significantly lower than that in normal peripheral tissue (60%) (P < 0.05). The expression intensity of CD86 in the inflammatory cells of gastric carcinoma was significantly lower than that in normal peripheral tissue (P < 0.01). The CD86 expression intensity in the inflammatory cells of gastric carcinoma in the patients with TNM III to IV was significantly lower than that of the patients with well-moderately differentiated degree or lymphode metastasis respectively (P > 0.05). However the CD86 expression intensity had not significant different in the sex, age, or cancer location (P > 0.05) 5. There was negative correlation between the expression of VIP in carcinoma tissues and the expression of CD80 and CD86 in the inflammatory cells of gastric carcinoma tissues. **Conclusion:** The expression intensity of VIP in gastric carcinoma tissues was higher than that in the normal tissues peripheral to carcinoma tissues. The expression intensity of CD80 and CD86 in the inflammatory cells of gastric carcinoma tissues was lower than that in the normal tissue peripheral to carcinoma tissues. There was negative correlation between the expression of VIP in carcinoma tissues and the expression of CD80 and CD86 in the inflammatory cells of gastric carcinoma tissues. During the process of gastric cancer development, VIP may suppress the immune monitoring of gastric cancer by inhibiting the cancer antigen presentation pathway.

**Key Word(s):** 1. VIP; 2. Gastric carcinoma; 3. inflammatory cells; 4. Immunohistochemistry;

**PR0354 Immunology/Microbiology (Basic) TNBS facilitates the initiation of food antigen related Th2 pattern inflammation Presenting Author: PENGYUAN ZHENG Additional Authors: ZHIQIANG LIU, PINGCHANG YANG Corresponding Author: PENGYUAN ZHENG Affiliations: zhengzhou university; Zhengzhou University; McMaster University**

**Objective:** Environmental agents, such as haptons, are increasingly becoming important causal factors in the pathogenesis of food allergy. Haptons can elicit antigenicity by binding with proteins. Whether haptons play a role in the pathogenesis of food allergy remains to be investigated. This article aims to elucidate the role a hapten plays in food antigen-related Th helper 2 (Th2) pattern intestinal inflammation **Methods:** The effect of trinitrotoluene sulfonic acid (TNBS; as a hapten) on the properties of dendritic cells was assessed by a cell culture model. BALB/c mice were sensitized with a mixture of TNBS and ovalbumin (OVA; as a model antigen). Intestinal Th2 response were analyzed with the mouse model

**Results:** TNBS increased the expression of T-cell immunoglobulin and mucin domain-4 and CD80 and decreased the levels of interleukin-12 in dendritic cells. Higher serum levels of OVA-specific immunoglobulin E, histamine expression and skewed antigen-specific Th2 polarization in the intestinal tissue were detected in mice sensitized with TNBS + OVA as compared with those treated with either OVA or TNBS alone. In addition, the TNBS-OVA-treated mice also showed an increased number of inflammatory cells, high levels of interleukin-4 and a decreased expression of interferon-g in the lamina propria mononuclear cells. **Conclusion:** Hapten TNBS can facilitate the initiation of food antigen related Th2 pattern inflammation in the intestine

**Key Word(s):** 1. TNBS; 2. Food allergy; 3. Th2; 4. DC;
PRO356
Immunology/Microbiology (Basic)
Construction of lentiviral vector of alkB gene and effect on biological characteristics of gastric cancer cells
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Objective: To construct the lentiviral vector encoding alkB gene and investigate its effect on proliferation and activity of human gastric cancer cells. Methods: alkB gene cloned from cDNA library or plasmid containing alkB gene was double restriction digested as well as lentiviral vector plasmid pGC-FU-3FLAG, the lentiviral expression vector plasmid was generated by connecting the target gene and vector plasmid and confirmed by restriction endonuclease analysis and sequencing. Plasmid pGC-FU-3FLAG, pH Helper 1.0 (gel/pool element) and pH Helper 2.0 (VSVG element) were co-transfected into 293T cells for packaging of lentivirus, respectively, harvesting the supernatant in 48 hours. Virus titer was measured according to the expression level of GFP. The lentiviral vector of alkB gene was transfected into human gastric cancer cell line SGC7901, cell activity and proliferation was determined by Methyl thiazolyl tetrazolium (MTT), cell cycle distribution was determined by flow cytometry (FACS). Results: The lentiviral vector of alkB gene was successfully constructed, and the virus in the supernatant reached a titer of 5E+7 TU/ml. Compared with cells transfected by blank-lentiviral vector and control cells, it can remarkably decrease the percentage of G2/M phase cells and significantly inhibit the proliferation and activity of gastric cancer cells. Conclusion: The lentivirus vector of alkB gene was successfully constructed as a tool for further study and it could inhibit proliferation of gastric cancer cells.

Key Word(s): 1. alkB gene; 2. Lentivirus; 3. Stomach Neoplasms;

PRO357
Immunology/Microbiology (Basic)
Effect of folic acid on growth and alkB gene expression in human gastric cancer cells
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Objective: The whole genome DNA of gastric carcinoma and precancerous tissue (such as chronic atrophic gastritis mucosa) has a hypermethylation accompany with tumor suppressor gene down-regulated expression. Folic acid can prevent gastric carcinoma developing from precancerous changes and alkB gene can repair the injury methylation of RNA and DNA. However, it is not clear whether the alkB gene is involved in the mechanisms of folic acid to prevent induction and progression of gastric cancer. This study was aimed to investigate the effect of folic acid on growth and alkB expression in human gastric cancer cells. Methods: Human gastric cancer cell line SGC7901 was cultured, and intervened by 0.2 mg/L, 0.4 mg/L, 0.8 mg/L and 1.0 mg/L folic acid respectively, meanwhile the alkB gene expression level was observed by real-time quantitative RT-PCR. Methyl thiazolyl tetrazolium (MTT) was used to detect cell activity and proliferation, flow cytometry (FACS) was used to determine cell cycle distribution in vitro. Results: Compared with blank control cells, the percentage of G0/G1 phase cells was significantly decreased by 0.2 mg/L folic acid (p < 0.05), cells were blocked in G2/M phase and the vitality of cancer cells were inhibited by 0.2 mg/L and 0.4 mg/L group. The alkB gene expression affected by folic acid (0.2 mg/L, 0.4 mg/L) was significantly higher than the control group. Conclusion: Folic acid can inhibit the proliferation and vitality of gastric cancer cells and up-regulate the expression of alkB gene. Therefore we propose that up-regulated expression of alkB gene may be involved in the mechanism of folic acid inhibition of proliferation on gastric cancer cells.

Key Word(s): 1. Folic Acid; 2. alkB gene; 3. stomach carcinoma; 4. DNA methylation;

PRO358
Immunology/Microbiology (Basic)
Reduced diversity of fecal microbiota in patients with chronic kidney disease
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Objective: The human intestinal tract harbors a vast ensemble of microbes that provide significant metabolic capabilities and affect inflammatory signaling. Evidences indicate that Chronic kidney disease (CKD) is associated with micro-inflammatory state and metabolic syndrome. Accordingly, we hypothesized a relationship between gut flora and CKD. The aim of this study was to investigate the fecal microbiota composition in CKD patients. Methods: Both culture-dependent and culture-independent approaches have been used for isolation and characterization of fecal microbiota. Fecal samples were collected from 199 CKD patients and 110 healthy controls. Conventional cultivation and 16S rDNA-based quantitative Real-time PCR were carried out for the detection of Bacteroides, Enterococcus, Bifidobacterium, Clostridium, Lactobacillus and Enterobacteriaceae. Results: Significant alterations were observed in the fecal microbiota composition between the two groups. An overall decrease in some bacteria belonging to the normal anaerobic gut flora was suggested by both cultivation and molecular analysis, in particular, presence of Enterococcus and Enterobacteriaceae were lower in CKD patients. However, the ratios of Bacteroides, Clostridium, Lactobacillus and Enterobacteriaceae to total bacterial numbers were higher in CKD. Conclusion: This is the first report investigating the fecal microbiota in CKD patients. This study compares human fecal microbiota from CKD patients and healthy control, showing an overall decrease in intestinal microbes in CKD. The results allow us a better understanding of changes in gut flora in these patients and indicate the important role of gut microbiota in CKD.

Key Word(s): 1. fecal microbiota;

PRO359
Immunology/Microbiology (Basic)
Microbiological etiology in the small bowel bacterial overgrowth syndrome
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Objective: To determine the microbiological etiology of the intestinal bacterial overgrowth syndrome (SIBO). Methods: Breath test H2 Bedfont®, Colonoscopy, Brushing of terminal ileum, Ileum Cultures Results: UNIVERSE: 33 PATIENTS = 18 (54.54%) FEMALE; 15 (45.45%) MALE; AGES; 17–68, average: 39.4 years old. BREATH TEST H2 POSITIVE FOR SIBO (Small Bowel Bacterial Overgrowth Syndrome) MILD: 6; MODERATE: 20; STRONG: 7; MICROORGANISMS: AEROBE Klebsiella spp. 1, Enterococcus spp. 4, Corynebacterium 5, S. viridans 3, Proteus mirabilis 2, ANAEROBE: E. Coli 15, Bacteroides spp.
8, Lactobacillus spp. 8, Micrococcus spp. 3, Veillonella spp. 3, Fusobacterium 2, OTHER: Candida spp. 2; DISCUSSION OF RESULTS: 1. We studied 33 patients, of whom 18 (54%) were female and 15 (46%) male. 2. The average age was 40 years. 3. The predominant symptoms were: flatulence, post-prandial heaviness, bowel irregularity and constipation-predominant, two patients had already been treated by a physician for IBS. 4. Regarding microbiological results it is important to note that pure ileum cultures were obtained in 15 patients (45%), of which 13 patients had E. coli (40%). 5. The antibiotic susceptibilities of the isolates were also determined. Of the E. coli strains isolated in the ileum, we found 2 strains resistant to ciprofloxacin, 3 strains resistant to norfloxacin and 4 strains resistant to aminoglycosides. 6. Were individualized treatment, including: intestinal antiseptics, antibiotics, a bile acid modifiers, etc. 7. In the four patients, of whom 18 (54%) were female and 15 (46%) male. 8. The average age was 40 years. 3. The predominant symptoms were: flatulence, post-prandial heaviness, bowel irregularity and constipation-predominant, two patients had already been treated by a physician for IBS (irritable bowel syndrome). 3. The predominant microorganism isolated in the terminal ileum was E. coli. 4. We emphasize the presence of yeast in two patients. 5. After receiving the respective treatment the symptoms were resolved with antibiotic therapy (3–4 weeks).

**Key Word(s):** 1. SIBO; 2. E.coli; 3. Ileum; 4. IBS.

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### PR0360

**Immunology/Microbiology (Basic)**

**Study on differential expression of tumor suppressor genes in gastric cancer cells up-regulation of alkB gene**

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**Objective:** Hypermethylation of promoter region of tumor suppressor gene is an important mechanism of gastric carcinogenesis. The proteins encoded by alkB gene can repair methylation damage. Down-regulation of alkB gene in gastric carcinoma and precancerous tissue was observed in our previous study accompanied by the similar change of tumor suppressor gene p21, p16 and APC. Whether alkB gene is involved in gastric induction and progression is unclear. This experiment was done to investigate the effect of up-regulation of alkB on expression of p21, p16, hMLH1 and APC genes. **Methods:** Lentiviral expression vector carrying alkB gene was successfully constructed in our previous study and transfected into human gastric cancer cell line SGC7901. The fluorescent microscopy and real-time polymerase chain reaction (PCR) was used to investigate the expression of alkB gene. The expression level of p21, p16, hMLH1 and APC genes was examined using RT-PCR and promoter methylation profile was detected by methylation-specific PCR (MSP) respectively. **Results:** The fluorescent microscopy and RT-PCR results showed that alkB gene expressed highly and stably in the cell line SGC7901. Compared with cells transfected by blank-lentiviral vector and control cells, up-regulation of alkB gene can significantly up-regulate the expression of p21, p16, hMLH1 and APC genes. Meanwhile, decrease the promoter methylation of p16 and APC genes. **Conclusion:** Up-regulation of alkB gene could up-regulate the expression of p16 and APC genes. We propose that alkB gene might play a role in the molecular mechanism of gastric cancer through repairing the hypermethylation injury of some tumor suppressor genes.

**Key Word(s):** 1. Tumor suppressor; 2. alkB gene; 3. DNA methylation; 4. Lentivirus.

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### PR0361

**Immunology/Microbiology (Basic)**

**Syndecan-1 inhibit intestinal bacterial translocation via regulating tight junction proteins**

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**Objective:** Microbial translocation from the gastrointestinal tract has been implicated in many fetal diseases, such as SIRS, MOFS etc. Syndecan-1 (Sdc1) is the predominant cell surface heparan sulfate proteoglycan expressed on intestinal epithelia, and there is substantial evidence that heparin sulfate participates in binding a wide variety of microbes to mammalian cells to mediate microbial adherence and internalization, but few studies have focused on their translocation and the potential mechanisms unknown. Our experiments were designed to clarify the ability and mechanism of Sdc1 on mediating the translocation of enteric flora with intestinal epithelium. **Methods:** Expression of Sdc1 in different colon intestinal cell lines was detected by RT-PCR, Western blot and immunofluorescence. Bacterial translocation and epithelial permeability assays were performed using transwell polyester membrane filters. After the confluent cells reached a TER of almost 300 omegas measured using an epithelial tissue voltohmeter, bacteria suspensions were taken from the basolateral chamber and TER was measured at the same time point. Ectopic expressions of Sdc1 were obtained by transfecting Sdc1 overexpression plasmid or Sdc1 siRNA and the corresponding bac- terial translocation and epithelial permeability assays were performed. Cooperation between Sdc1 and tight junction (TJ) proteins was conformed via co-IP, western blot and immunofluorescence. **Results:** High Sdc1 expression on HT-29 and low Sdc1 expression on Caco-2 enterocytes both appeared concentrated on the cell borders, while high expressions on SW480 and low expression on LoVo were on cytoplasm and nucleus respectively. It demonstratedSdc1 inhibited translocation of E.coli across HT-29 monolayer, but not Caco-2 for both the TER reduction (28.2% ± 4.1% vs. 54.9% ± 5.8%) and E.coli translocation (57.5 ± 6.1% vs.90.6% ± 14.4%) across HT29 were significantly less (P < 0.01). Ectopic expression of Sdc1 by transfecting Sdc1 overexpression plasmid notably...
PR0362

Intestine – Absorption/Secretion/Sensing
Expression of Ang-related factors in the mouse UCUCACRC

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Objective: To observe the expression of angiogenesis-related factors in the tissues of the dextran sodium sulfate (DSS)-induced ulcerative colitis (UC) and L. 2-dimethylhydrizine (DHM)/DSS-induced Ulcerative Colitis. Associated with Colonrectum Cancer (UCACRC) and the relationship to angiogenesis. Methods: Use the DSS-induced method to establish the UC mouse model (n = 23) and use the DHM/DSS method to establish the UCACRC mouse model (n = 23). And establish the control group of 20 mice. To observe the changes of the colon tissues of the mice killed in different periods. To detect the expression of the Ang-2, HIF, VEGF, Flk-1 in the UC tissue, UCACRC tissue and normal tissue by S-P immunohistochemical method. To detect the micro vascular density (MVD) in different tissues by Weidner method. Results: Result: Using DSS Only can establish the UC mouse model, but the incidence rate of the low grade of atypical hyperplasia in the end of 9th week is only 15.38% (2/13) in this group, however, the incidence rates of atypical hyperplasia and neoplasm can get to 92.31% (12/13) in the group of the mice dealt with DHM and DSS in the end of 9th week. The expression level of the Ang-2, HIF, VEGF, Flk-1 in the UC tissue and UCACRC tissue is much higher than those in normal tissue (P < 0.05). The more the periods are, the higher the expression level is. But there is no obvious difference between the UC tissue and UCACRC tissue (P > 0.05). MVD of the UC tissue and UCACRC tissue is much higher than those in normal tissue (P < 0.05). MVD of the UCACRC tissue is higher than that in the UC tissue. The expressions of the four kinds of angiogenesis-related factors are positively related with MVD. Conclusion: Ang-2, HIF, VEGF, Flk-1 play important roles in the process of the angiogenesis of UC and UCACRC and are closely related to the occurrence and development of inflammation and tumor.

Key Word(s): 1. Angiogenesis; 2. UC; 3. UCACRC;

PR0363

Intestine – Absorption/Secretion/Sensing
Disorder caused by psychological factors and digestive disorder caused by psychological factors

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Objective: Among the digestive disorders, the patients with “functional dyspepsia” (FD) account for about 60% of the daily outpatients of digestive department. After 20 years of research, a lot of progress has been made for the theory of FD. Motility stimulation and acid suppression etc. are given in clinical individualized treatment [1]. However, the general etiology and mechanism is unclear, which leads to a poor treatment effect. And the treatment is especially ineffective in some severe cases. In the treatment of FD, we noticed concomitant phenomena such as insomnia and neurasthenia in some cases, so we added a drug effective in the treatment of neurasthenia, that is, flupentixol and melitracen, as adjuvant therapy. We found that it was not only effective in the treatment of neurasthenia, but also improved and eliminated the symptoms of FD. Since then, we gave flupentixol and melitracen to patients with FD accompanied by vexation, irritability and other emotional abnormalities, with very high efficacy achieved. Finally, we also gave flupentixol and melitracen to patients with FD not accompanied by insomnia or emotional abnormalities, with effective rate of about 80%. Because of the above experience, we extended the use of flupentixol and melitracen to the treatment of functional diseases, such as gastrointestinal reflux disease (GERD) and functional abdominal pain, and organic diseases, such as peptic ulcer and jaundice which is mainly manifested in increased indirect bilirubin, also with amazing therapeutic effects. How flupentixol and melitracen works for such diseases has aroused our consideration. From a pharmacological point of view, it is used for the treatment of mild to moderate anxiety and depression, both of which are mostly psychological phenomena, essentially resulting from psychological activity. Therefore, we believe that its therapeutic mechanism is to change the psychological activity by regulating the neurotransmitters. Then, there are two explanations for the mechanism of its improvement of digestive symptoms. First, the digestive symptoms are caused by anxiety and depression. This is difficult to understand, because psychiatric symptoms are not the cause and it can not cause other symptoms. Besides, in many FD patients without anxiety or depression, the symptoms were also improved by administration of this drug, indicating that it improves the psychological activity via neurotransmitters, and thus achieves a clinical effect. Second, like psychiatric symptoms, the digestive symptoms are psychological phenomena in essence. This can explain why the drug can treat patients with FD not accompanied by psychiatric symptoms. In summary, if the majority of the symptoms of FD are psychological phenomena, a new theoretical system, that is, the “general medical psychology” system must be built. Medical psychology is a science that studies psychological activities through psychological phenomena, such as emotion, cognition and behavior, mainly by psychiatrist and psychologists. General medical psychology holds that some clinical symptoms and phenomena in the systems of human body, such as diarrhea, desire to defecate, chest oppression, shortness of breath, high blood pressure and high blood sugar are also psychological phenomena, and they are mainly studied by non-psychiatrist and non-psychologist. Once the “general medical psychology” system is established, “psychological” is no longer synonymous with "mental". “Psychology” is consciousness-related functions of the brain [2]. Psychological activity is driven by psychological factors. Psychological factors are inevitably important causes of some mental illness and physical illness, which will inevitably lead to the establishment of discipline systems of the disorder caused by psychological factors, such as the digestive disorder caused by psychological factors. After the
term “psychosomatic” was introduced in 1818, by the German psychiatrist Johann Heinroth, in his research paper on insomnia, in 1948, the American psychiatrists Dunbar gave systematic discussion of “psychosomatic”, in his book Synopsis of Psychosomatic Diagnosis and Treatment. With intensive study and continuous practice of the psychosomatic relationship, in 1980, these diseases were officially named as “psychosomatic diseases” by the American Academy of Psychosomatic Medicine [5]. And so far it is still a mainstream concept of the medical profession. However, we believe that the “psychosomatic diseases” should become a thing of the past. Why? First, let’s look at the concept of “psychosomatic diseases”: psychosomatic disease refers to the physical functional disease or physical organic disease in which psychological and social factors plays important roles in the occurrence and development of disease.[4]. Then, how could we name the mental illnesses caused by psychological factors? Obviously, such concept is not comprehensive enough. However, we believe that the introduction of psychosomatic disease is of historical significance, for it indicates that psychology is one of the disease causes, and reveals that psychosomatic diseases are universal and this understanding is important. Nonetheless, it has a lot of problems. For example, under the guidance of the original psychology, psychiatrists confuse “mental” with “psychological”, and non-psychiatrists believe that psychology is under the charge of psychiatry. These ideas make the transformation of medical model become a slogan that cannot be understood. Therefore, we must establish the system of general medical psychology, in order to promote the transformation of medical model, thereby making it a medical revolution. 

Methods: The disorder caused by psychological factors refers to physical or mental illnesses whose occurrence and development mainly attribute to psychological factors. It includes not only the physical functional and organic diseases caused by psychological factors, but also the mental functional and organic diseases caused by psychological factors. In fact, it has already been found that psychological factors are closely related to physical health. A clear understanding of the relationship between “psychological” and “mental” is the basis for understanding the disorder caused by psychological factors, that is, psychology is consciousness-related functions of the brain, and part of the mental symptoms is the partial manifestation of the psychology. Both are relatively easy to identify. The material basis of mental activity is the brain. Psychological imbalances can be manifested mainly in mental or physical discomforts, but in both mental and physical discomforts in most cases. The concept of “the disorder caused by psychological factors” is a milestone in the transformation of the traditional biomedical model. The traditional biomedical model played an important role in the development of medicine, but it has a lot of misleading ideas, which directly influence human health and life quality. Therefore, only the establishment of biopsychosocial medical model can lead to a more mature and perfect stage of medicine. There is still a theoretical bottleneck in the transformation of medical model. In 1977, George Engel, a professor of psychiatry and medicine at the University of Rochester, had his paper “the need for a new medical model: a challenge for biomedicine” published in Science, and created what he called the “biopsychosocial model” [5]. At present, 35 years after its publication, many doctors still do not know what “medical model” means, not to mention the transformation of medical model. What is the reason for this? First, academically, the concepts of “psychological” and “mental” are not clearly understood and confusing. Second, theoretically, it is difficult to establish the “general medical psychology” system. Abdominal distension, chest oppression, high blood pressure and high blood sugar, etc. are very difficult to interpret as psychological phenomena. In fact, this is just a matter of perception. It is easy to understand. As long as we combine the theory with practice, care about patients’ suffering, identify problems, and read related books (e.g. on psychiatry and medical psychology), we can draw a conclusion. Finally, it is the misleading objective examinations and constraint of biomedical way of thinking (i.e. evidence combined with reasoning). The concept of the disorder caused by psychological factors is established based on the bio-psychological model. In the traditional biomedical model, the main causes include biological, physical, chemical and genetic factors; while, in the bio-psychological model, in addition to the above four factors, the main causes also include psychological factors, such as life events and changes in the weather. The introduction of the concept of “the disorder caused by psychological factors” identifies the psychological factors as an important cause in the bio-psychological model; it reveals a lot of mental disorders are also the disorder caused by psychological factors, and facilitates the study on the pathogenesis of the disorder caused by psychological factors; it changes instructions of current “anti-anxiety, anti-depression and anti-schizophrenia” drugs, thereby ultimately promoting the transformation of medical model. In most the disorder caused by psychological factors, corresponding psychological factors (or known as psychological stressors) can be identified as a cause or precipitating factor; there may or may not be a clear pathophysiological process; there may or may not be abnormal examination results, and abnormal examination results do not necessarily have clinical significance, i.e., not the cause of clinical symptoms; some human characteristics may be identified as predisposing factors; there may or may not be emotional, cognitive and behavioral abnormalities; the pathogenesis can involve single-system or multi-system; it can occur in motor or sensory systems, but usually in systems and organs controlled by autonomic nervous. The forms of “the disorder caused by psychological factors” can be summarized as follows: 1) physical functional disorder caused by psychological factors; 2) physical organic diseases caused by psychological factors; 3) the disorder caused by psychological factors accompanied by organic diseases; 4) the disorder caused by psychological factors aggravating organic diseases; 5) the disorder caused by psychological factors caused by organic diseases. Besides, there are interaction and transformation between each form. However, clinicians must have the ability to infer whether the psychological factors are the cause or result. As people face with increasing pressure in daily life, they will make a variety of reactions. These reactions, in essence, are the product of psychological factors. Some of the psychological factors will evolve into a psychological imbalance, which will eventually lead to a disease. Its pathogenesis, in general, can be summarized as follows: as stressors, a variety of psychological factors affect the patients susceptible to or with the disorder caused by psychological factors, and stimulate the body to produce a series of psychological reactions, which, in turn, act on the limbic system or hypothalamic – pituitary – adrenal axis (HPA axis). If the limbic system is affected, mental phenomena will be induced; if the HPA axis is affected, a lot of physical phenomena will be resulted. Like mental phenomena, physical phenomena are also psychological phenomena. The above processes interact with each other via a complete intermediary procedure, with neurotransmitters, such as 5-hydroxytryptamine, norepinephrine, and dopamine, as the mediators. Mental phenomena mainly manifest as anxiety (positive emotions) and depression (negative emotions); physical phenomena mainly manifest as headache, chest oppression, shortness of breath, abdominal distension, abdominal pain, high blood pressure and high blood sugar, etc.. When involving the autonomic nervous system, excitation and inhibition are mainly manifested. In the stomach and intestine, for example, when the sympathetic nerve is excited, the stomach tension will decrease, which will result in motility disorders and hypersensitivity symptoms (such as epigastric bloating and belching), eventually leading to FD; on the contrary, the intestinal muscle tension will increase, which will result in symptoms caused by increased motility (such as desire to defecate), ultimately leading to irritable bowel syndrome. In addition, the sympathetic nerve excitation can cause increased secretion of hormone elevating blood sugar, and ultimately lead to occurrence and aggravation of diabetes, hyperthyroidism and hypertension. 

Results: With changes in the spectrum of disease, especially the rapid increase of the disorder caused by psychological factors, we must emphasis the research on the disorder caused by psychological factors to adapt to the medical model transformation as soon as possible. At present, in the digestive field, the concept of “the disorder caused by psychological factors” has not been established in most of the gastroenterology physicians. Due to the constraint by the
thinking mode of “motility disorders and functional disorders”, as well as restriction by the simple “biomedical” model, there are many difficulties in the clinical diagnosis and treatment of the vast majority of functional gastrointestinal diseases and some organic digestive disorders belonging to the category of the disorder caused by psychological factors. Fortunately, a small number of gastroenterology physicians equipped with the concept of “the disorder caused by psychological factors”, have appropriately applied neurotransmitter-modulating drugs in the treatment of these disorders, and have achieved “magic” effects. Their achievements have promoted the reform of treatment concept of digestive disorders, and laid a practical foundation for the introduction of a new theory – the digestive disorder caused by psychological factors. The digestive disorder caused by psychological factors includes not only the vast majority of functional digestive disorders but also some organic digestive disorders, such as, FD, GERD, and functional abdominal pain, peptic ulcer and jaundice (mainly referring to increased indirect bilirubin). In the last 30 years, our understanding of the gastric functional the disorder caused by psychological factors can be divided into three stages: gastric neurosis, non-ulcer dyspepsia (NUD) and FD. FD is a group of clinical syndromes with epigastric discomforts, such as upper abdominal pain and bloating, early satiety, belching, loss of appetite, nausea, vomiting, not caused by any organic disease according to the results of body examination[6]. As far as the superficial symptoms are concerned, it is generally related to motility disorders and increased sensitivity, but the true cause of the vast majority of FD, by its very nature, is the psychological factors. However, because the perception of doctors and patients is affected by the traditional biomedical model, this true cause is often ignored. If the doctors are only concerned about the superficial symptoms, and blindly use gastric motility-enhancing and gastric acid-inhibiting drugs, the efficacy will be extremely limited, and they will tend to go with the tide. Only a small number of conscientious and responsible gastroenterology physicians may find its etiology is related to psychological factors and, if necessary, will use anti-anxiety and anti-depression drugs. However, due to “selfish departmentalism” or the lack of a necessary understanding of the disorder caused by psychological factors, without realizing that the psychological factors are the causes of the digestive disorders, as well as the drug instructions clearly indicating their indications limited to anxiety, depression, and schizophrenia, the doctors rarely or dare not adhere to the use of these drugs. In fact, these digestive disorders are not the consequences of mental problems, but psychological factors. Doctors often follow the traditional biomedical model, and have a one-sided pursuit of “definite clinical manifestations, definite objective evidence, a definite pathological basis and a definite treatment effect” in the diagnosis. In actual clinical practice, however, many signs and symptoms are difficult to explain by the biomedical model, and their satisfactory objective evidence or pathological basis cannot yet be discovered. And we found that the use of neurotransmitter-modulating drugs could often provide unexpected effects in such cases. In addition, for some “organic” symptoms and signs, and those with clear pathological evidence, if its targeted therapy is ineffective, the neurotransmitter-modulating drugs can also be used, which will provide a “magic” effect sometimes. Therefore, in the diagnosis and treatment of disease, it is necessary to not only recognize whether there is a physical disorder, and also consider whether psychological factors are playing a role. This requires us to abandon the traditional biomedical model, and accept modern bio-psychological model. As most newborn things are under suspicion and reproach at the beginning, the disorder caused by psychological factors and the digestive disorder caused by psychological factors are not fully understood in the current Chinese medical profession, due to the education of the traditional biomedical mode, general understanding of microbial pathogenicity and effectiveness of its treatment, a somewhat misleading role of evidence-based medicine in clinical practice, driving force from the commercialization of medical practice, patients’ recognition of evidence-based medicine, as well as the limited psychological treatment effect. Hence, we have to continue improving the understanding and reinforcing research in this regard.

Conclusion: The disorder caused by psychological factors is widespread, and its theory is based on various professional disciplines. Doctors of various specialties must pay attention to the pathogenic role of psychological factors. Since the digestive system is usually controlled by autonomic nervous, it is more susceptible to the disorder caused by psychological factors. However, this fact has caught little attention in clinical practice. As a gastroenterology physician, our understanding of the nature of the diseases has been changed by the effectiveness of the neurotransmitter-modulating drugs. It proves the universality of the disorder caused by psychological factors, and has triggered our new thinking. The disorder caused by psychological factors is widely present in various medical disciplines in addition to psychiatry. However, due to the unclear concepts of “mental” and “psychological”, and a wide application of misleading objective examinations in various medical disciplines, the diagnosis and treatment of the disorder caused by psychological factors become more difficult, resulting in an underdeveloped understanding of the disorder caused by psychological factors. During the transformation of medical model, psychiatric and non-psychiatric scholars must dare to admit the deficiencies in theory and practice on the basis of affirmation of our professional performance, in order to make innovations in medicine, and ultimately relieve the suffering of patients.

Key Word(s): 1. disorder; 2. psychological;

**PR0364 Intestine – Absorption/Secretion/Sensing**

**To establish a general medical psychology system to promote medical model transformation**

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**Objective:** With nearly a century of development under the guidance of the biomedical model, modern medicine has witnessed breakthroughs, especially in the field of molecular biology, surgical techniques and interventional medicine. Therefore, it is of great possibility to cure various diseases, extend the life span, and improve the quality of survival. However, from past to present, many diseases caused by psychological factors can not be understood thoroughly or understood wrongly, with slow medicine development, which leads to medical model failing to transform into a more advanced one, and the effective therapies cannot be applied widely. These problems have led to patients’ long-term suffering of disease, thereby affecting their physiological function and immune system, and eventually leading to the occurrence of organic diseases, and even malignant tumors. This is indeed a major issue in the medical development, and should be paid much attention to change the status quo! **Methods:** As early as in 1977, George Engel, a professor of psychiatry and medicine at the University of Rochester, had his paper “the need for a new medical model: a challenge for biomedicine” published in Science, and declared the need for a new medical model, namely, “biopsychosocial model”, to solve clinical problems. [1] This concept has aroused worldwide attention immediately after it was put forth. A lot of psychiatrists, psychologists and internists, based on their own clinical practice, have applied some anti-anxiety, anti-depression and anti-schizophrenia drugs to treat patients with anxiety and depression. When treating anxiety and depression in certain diseases, non-psychiatrists found that these drugs not only provided good effects for those symptoms but also in treating many physical refractory diseases of related disciplines. Consequently, the medical model transformation is limited to the scope of treatment of anxiety and depression; “psychological” (consciousness-related function of the brain) [2] is confused with “mental” (mental reflection of psychology); physical symptoms and illnesses are mistaken for the manifestations of mental illnesses; and they are called “somatoform disorders” [3]. The changes mentioned above
seem to have promoted the transformation of medical model, but, in fact, in the wrong way. The clinical practice of ours and other domestic and foreign scholars has proved that by applying anti-anxiety, anti-depression and anti-schizophrenia drugs, non-psychiatrists can get a good effect not only in the treatment of physical illnesses accompanied by anxiety and depression, but also in the treatment of most physical functional diseases and some organic diseases. Retrospective studies found that the effective rate was about 80%. Then, why can these drugs cure physical illnesses? What is the cause of these physical symptoms and illnesses? In fact, when acting on the human sense organs to induce a cerebral reaction, psychological factors will affect various parts of the brain. If the limbic system is affected, mental phenomena will be caused; if the HPA axis is affected, a lot of physical phenomena (such as headache, chest oppression, shortness of breath, abdominal distension, abdominal pain, high blood pressure and high blood sugar) will result. And like mental phenomena, physical phenomena are also psychological phenomena. Therefore, a general medical psychology system must be established on the basis of the medical psychology. It is the only way to clarify the relationship between physical illness and psychology, to establish the pathogenic role of psychological factors, to transform the simple biomedical model to the correct biopsychological model, and to spark an imperative medical revolution. Results: General medical psychology is built on the basis of medical psychology. It clarifies, from a theoretical point of view, that the essence of the medical model transformation is to reflect the psychological medical model. If the psychological phenomenon is confined to the mental scope, it is only conducive to the medical model transformation among psychiatrists. However, because the psychiatrists confuse “mental” and “psychological”, they can not really transform the medical model. Therefore, only by clarifying the relationship between psychological factors and physical illness, can the medical model transformation be completed among non-psychiatrists. This is the true purpose of the medical model transformation. Medical psychology refers to a science in which psychiatrists and psychologists study the patient’s psychology, based on the mental phenomena they deal with in their patients. It undoubtedly has its limitations. They believe that mental phenomena, such as emotion, cognition and behavior, are unique psychological phenomena. In fact, part of them, such as, hepatic encephalopathy and Alzheimer’s disease, are not psychological phenomena. General medical psychology classifies many physical symptoms and phenomena as psychological phenomena, so the so-called anti-anxiety, anti-depression and anti-schizophrenia drugs, which provide good effects in the treatment of physical illnesses, can be considered as psychology-adjusting drugs or neurotransmitter-modulating drugs. They can treat physical and mental illnesses by modulating neurotransmitters. In this way, the transformation of medical model will be completed automatically. The etiology of psychological factors should be developed. After the establishment of the general medical psychology, psychological factors should become the cause of more than half of non-psychiatric disorders and most mental disorders, and will be precipitating factors for most diseases. Therefore, health care workers must pay attention to whether their every action, every word, and even a noun or a term throughout their clinical work can have influence on patient’s psychological activities. Only in this way, can iatrogenic disease be greatly reduced, and can every doctor be integrated into the bio-psychological model. The disorder caused by psychological factors-related disciplines should be established. For example, the digestive disorder caused by psychological factors is not a disease by itself, but refers to a category of disorders with the same etiology. Most digestive disorders, such as functional dyspepsia (FD) and peptic ulcer disease, are caused by psychological factors. The establishment of this concept can not only eliminate the misunderstanding between “psychological” and “mental”, but also allow the proper application of neurotransmitter-modulating drugs properly in the treatment of digestive diseases. In addition, it is conducive to the study on the pathogenesis and treatment of the digestive disorder caused by psychological factors. Conclusion: The traditional biomedical model is developed from the evidence of biological (such as bacteria) pathogenicity and the effectiveness of its corresponding treatment. For it is intuitive and is based on a long period of treatment practice, it is very important, and must always be followed. On the other hand, because the bio-psychological model is abstract, and “psychological” is confused with “mental”, it is not understood by both doctors and patients. The instruction of psychology-adjusting drugs is limited to psychiatric disorders, resulting in extreme difficulties in the transformation of medical model. As long as the general medical psychology system is established, psychological factors are identified as a major cause of disease, the disorder caused by psychological factors-related disciplines are developed, and the drug instructions are continually modified and improved through clinical practice, the transformation of medical model will be realized inevitably. The transformation of medical model will play a positive role in promoting the prevention and treatment of disease, and allow a qualitative leap in the thinking and working methods of doctors as well as textbook representation. It is bound to bring about a fundamental change in human health and life span, and contribute to a full-scale medical revolution.

Key Word(s): 1. general; 2. medical psychology;
Objective: Intestinal anastomosis is a surgical procedure to establish communication between two formerly distant portions of the intestine. This procedure restores intestinal continuity after removal of a pathological condition affecting the bowel. Intestinal anastomosis is one of the most commonly performed surgical procedures, especially in the emergency setting, and is also commonly performed in the elective setting when resections are carried out for benign or malignant lesions of the gastrointestinal tract. A disastrous complication of intestinal anastomosis is anastomatic leak resulting in peritonitis, which is associated with high morbidity and mortality. Proper surgical technique and adherence to fundamental principles is imperative to ensure successful outcome after intestinal anastomosis.

Indications: Indications of intestinal anastomosis can be broadly divided into two categories: restoration of bowel continuity following resection of diseased bowel and bypass of unresectable diseased bowel.

Resection of Diseased Bowel

Resection of diseased bowel is performed in the following settings:

* bowel gangrene secondary to vascular compromise resulting from mesenteric vascular disease, prolonged intestinal obstruction, intussusceptions, or volvulus
* malignancy
* benign conditions, such as intestinal polyps, intussusception, or roundworm infestation with intestinal obstruction
* infections, such as tuberculosis complicated with stricture or perforation
* traumatic perforations
* large perforation (traumatic) not amenable to primary closure
* radiation enteritis complicated with bleeding, stricture, or perforation
* inflammatory bowel disease, ulcerative colitis, or crohn disease when disease is refractory to medical therapy or associated with complications such as bleeding, perforation, toxic megacolon, or dysplasia/carcinoma
* chronic constipation, idiopathic slow transit constipation, or hirschsprung disease, for which subtotal colectomy may be performed when the disease is refractory to medical therapy

Bypass of Unresectable Diseased Bowel

Bypass of unresectable diseased bowel is performed in following settings:

* locally advanced tumor causing luminal obstruction
* metastatic disease causing intestinal obstruction
* poor general condition or condition that prevents major resection

Pediatric Conditions

Pediatric conditions for which intestinal anastomosis may be required include the following:

* congenital anomalies, such as meckel diverticulum, intestinal atresia, malrotation with volvulus leading to gangrene, meconium ileus, duplication cysts, and hirschsprung disease
* inflammatory conditions, such as necrotizing enteritis, enterocolitis, tuberculosis, and enteric perforation
* other conditions, such as intussusception, angiodysplasia, polyloid disease, and ascariasis
* as a part of other surgical procedures, such as Kasai portoenterostomy, choledochal cyst, urinary diversions, pancreatic neoplasms.

Adequate exposure and access, gentle handling of the bowel, adequate hemostasis, approximation of well-vascularized bowel, absence of tension at anastomosis, good surgical technique, and avoidance of fecal contamination are tenets of good intestinal anastomosis.

Methods: This study was done in 100 casesmaya of exploratory laparotomy requiring intestinal anastomoses. In all cases single layer anastomosis was done with non absorbable sutures (3–0 silk sutures). All cases were of end to end anastomosis and majority of cases were of ileo-ileal anastomosis. Rest were of ileo-colic, colt-colic, oesophago-gastric, biliary-enteric anastomoses.

Cases were of both emergency and elective type. Posterior layer was done with simple full thickness sutures. Anterior layer was of inverting sutures. Close apposition was ensured. Results: All cases did well post-operatively. Only 3 cases had anastomatic leak which was minor and was managed conservatively. Re exploration was not done in any case. Patients were put to oral diet on 5th Post-operative day starting with liquid diet.

No patient reported in the later period with the clinical features of stricture formation or any other complication. Conclusion: Single layer intestinal anastomosis is comfortable procedure. It is less time consuming and cost-effective. Complication rate like anastomotic leakage is almost negligible. Morbidity and mortality is decreased. So this is an advisable procedure in all types of intestinal anastomoses.

Key Word(s): 1. intestines; 2. sutures; 3. anastomosis; 4. laparotomy;

Objective: Amyloidosis is a condition in which an abnormal protein called amyloid builds up in your tissues and organs. When it does, it affects their shape and how they work. Amyloidosis is a serious health problem that can lead to life-threatening organ failure.

Methods: Case: A 50 year old male, came with chronic diarrhea and the condition is very cahetic in hypoalbuminemia. From the gastroscopy and colonoscopy revealed no abnormality. From the enteroscopy there was amyloid in the Jejunum. The patient got methylprednisolon 2 times 125 mg for 3 days followed with methylprednisolon oral 1 mg/bw/day. After 1 week the patient’s condition got better, no diarrhea and the body weight increased and was followed by the albumin level.

Results: Methylprednisolon can manage amyloidosis.

Conclusion: Methylprednisolon might be beneficial in treating Intestine Amyloidosis.

Key Word(s): 1. amyloidosis; 2. intestine; 3. methylprednisolon; 4. enteroscopy;

Objective: Intestinal injury induced by radiotherapy can affect patient’s quality of life and may be life threatening. Mesenchymal stem cells...
(MSC)-derived molecules have been shown to provide protection from intestinal injury. However, the mechanisms involved are barely understood. In this study, we evaluated the therapeutic capability of MSC-derived molecules after radiation-induced intestinal injury and identified the potential mechanisms underlying the therapeutic action. **Methods:** To study this, adult male rats were exposed to a selected dose of 10 Gy local abdominal irradiation, MSC-conditioned medium (MSC-CM) was then delivered to rats by tail intravenous injection immediately after radiation. Blood and tissue samples (1d, 3d, 5d, 7d after radiation) were collected for various measurements and diverse disease clinical signs and mortality were determined. The levels of various inflammatory cytokines and chemokines were determined in small intestine and blood to assess the amelioration of inflammation at systemic and local levels. Parallel studies were performed in rat intestinal epithelial cells (IEC-6) co-coltured with MSCs after radiation. Proteomic analysis were performed to identify the key biomolecules correlated with the therapeutic effects in MSC-CM. **Results:** We report here that systemic infusion of MSC-CM significantly ameliorated the clinical and histopathological severity of intestinal injury in rats, abrogating weight loss and inflammation, restituting intestinal structure and xylose absorption, increasing survival. We observed that the delivery of MSCs secretions leads to an intestinal cytoprotective effect by both stimulating regeneration and inhibiting death of irradiated intestinal epithelial cells in vivo and vitro. MSC-CM treatment also activates resident Lgr5+ intestinal stem cells (ISCs) and accelerates Lgr5+ ISCs regeneration in the early stage of rehabilitation. In addition, we demonstrate that MSC-CM treatment has an inhibitory effect on inflammation response by down-regulation of pro-inflammatory cytokines and up-regulation of anti-inflammatory cytokines at both systemic and local levels. Conditioned medium from MSCs stimulated by radiation-induced inflammatory products (MSC-CM-IR) was more effective than conditioned medium from MSCs incubated under normal conditions (MSC-CM-NOR) and conditioned medium from rat skin fibroblast (CRL1213) stimulated by radiation-induced inflammatory products (FB-CM-IR), an observation partly explained by its higher content of growth factors and chemoattractive factors, such as basic fibroblast growth factor (bFGF), vascular endothelial growth factor (VEGF), monocyte chemoattractant protein (MCP)-1. **Conclusion:** Our results suggest that MSC-CM treatment provides therapeutic benefits to the injured intestine by reducing apoptosis and increasing proliferation of intestinal epithelial cells, accelerating resident Lgr5+ ISCs regeneration, limiting systemic and local inflammation and could be used as an attractive candidate for the treatments of radiation-induce intestinal injury.

**Key Word(s):** 1. MSCs; 2. small intestine; 3. radiation; 4. regeneration;

**PR0369**

**Intestine – Absorption/Secretion/Sensing**

**Effects of octreotide on NHE and tight junction proteins expression in diarrhea mice colon**

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**Objective:** Background/Aims: Diarrhea caused by enteric infections is a major factor in morbidity and mortality worldwide. At the most basic level, diarrheas is caused by increased secretion or decreased absorption of water and electrolytes which include sodium/hydrogen exchangers (NHE3, NHE8), tight junction proteins, DRA, SGLT-1 and so on. Our previously study demonstrated that somatostatin analogue octreotide stimulate NHE8 expression in the physiological status, but whether octreotide could stimulate NHE3, NHE8 or tight junction proteins in enteric infectious status is unknown. **Methods:** Methods: C57BL/6 mice were administrated with 107 CFU citrobacter rodentium to make diarrhea model. Diarrhea mice were divided into control group and octreotide treatment group respectively. Colon tissue was collected for tissue slice and HE stain. NHE3, NHE8 and tight junction proteins were detected by Western blot and RT-PCR in distal and proximal colon. **Results:** Results: Diarrhea appeared in mice administered citrobacter rodentium. Octreotide decreased fecal water content compared with control group. Hyperplasia of colon in infectious mice was observed by HE stain. NHE8 and claudin-3 decreased in diarrheal mice compared with the normal colon tissue. In diarrheal mice, octreotide significantly stimulated the expression of NHE3, NHE8 and claudin-3 expression in distal colon tissue, but only stimulate NHE8 expression in proximal colon. **Conclusion:** Conclusion: NHE3, NHE8 and tight junction protein claudin-3 play an important role in sodium and water absorption. Octreotide could reduce the losses of sodium and water in diarrheal mice partly through regulating NHE3, NHE8 and claudin-3 proteins expression in colon.

**Key Word(s):** 1. diarrhea; 2. Na+/H+ exchanger; 3. tight junction; 4. octreotide;

**PR0370**

**Intestine – Absorption/Secretion/Sensing**

**Mechanism of TMEM16A in the impairment of ICC induced by IL-4 in PI-IBS**

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**Objective:** To investigate the mechanism of TMEM16A in impaired intestinal cell of Cajal (ICC) induced by IL-4 in post-infectious irritable bowel syndrome (PI-IBS). **Methods:** Thirty male SD rats were randomly divided into the model group (n = 15) and the control group (n = 15). Rats in the model group were given 2,4,6-trinitro-benzene-sulfonic acid (TNBS) to establish a PI-IBS rat model. Other rats in the control group were given the same amount of saline as control. Animals were sacrificed after 4 weeks. ELISA test, immunohistochemistry, RT-PCR and transmission electron microscopy (TEM) were applied to observe the expression of IL-4 and TMEM16A and the changes of ICC ultrastructure. **Results:** The Elisa test showed that the concentration of colonic IL-4 in the model group was higher than that in the control group (P < 0.01). Immunofluorescence and RT-PCR suggested that the distribution and expression of TMEM16A were relatively lower compared with the controls. The TEM revealed the injury of ICC ultrastructure and its decreasing connection with other cells. **Conclusion:** IL-4 may induce the injury of ICC by influencing the distribution and expression of TMEM16A, it could change the gastrointestinal motility and finally result in the occurrence of PI-IBS.

**Key Word(s):** 1. TMEM16A; 2. PI-IBS; 3. ICC; 4. IL-4;
low Treatment failure favors ciprofloxacin (RR = 1.28, 95%CI [0.50, 3.27], I = 68%). Sensitivity analysis was done due to presence of heterogeneity. Results eventually showed a trend towards the control group. **Conclusion:** Conclusion: There is a trend towards earlier time to unformed stools and less treatment failure in the ciprofloxacin arm, while there is a trend towards rifaximin in earlier clinical wellness in the setting of traveler’s diarrhea. However, more studies should be done regarding geographic location, enteropathogens involved and resistance patterns.

**Key Word(s):** 1. Rifaximin; 2. Ciprofloxacin; 3. Traveler’s Diarrhea; 4. Meta-analysis;

**PR0372**

**Intestine – Absorption/Secretion/Sensing**

**Association between clinical serological parameters and marsh grades**

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**Objective:** Diagnosis of celiac disease is usually based on characteristic histologic changes including intraepithelial lymphocytosis, crypt hyperplasia and varying degrees of villus atrophy, according to a classification system proposed by Marsh (Marsh I_IIIc). The association between Marsh degrees and clinical presentations of celiac disease is matter of debate. We aimed to assess the association of Marsh criteria with different clinical presentations of celiac patients. Methods: All Demographic data, clinical signs and symptoms, complete past medical history, serologic tests and pathology reports of 122 diagnosed patients with CD, were extracted from patient registration database of Firoozgar hospital of Iran University of Medical Sciences. All the patients had been diagnosed based on pathology reports according to Marsh classification and data had been collected by a trained physician using a structured questionnaire. The ethics committee of the Iran University of Medical Science approved the study and informed consents were obtained from all patients after explaining the aims and protocol of study. Results: 122 celiac patients with mean age ± SD of 35.4 ± 15.4 were recruited to the study. There was no significant age and gender differences between marsh grade groups (P > 0.05). Body mass indexes (BMI) of participants in “Grade 1 and 2” group were higher than other marsh grade groups (P < 0.05). History of patients revealed that 86 (70.5%) of them have anemia but the differences between these frequencies were not statistically significant (P = 0.05). Overall, frequency of GI symptoms were higher in “Grade 3c” than other groups but there were no statistically significance differences in GI symptoms between marsh grade groups (P > 0.05). Anti- tTG levels in “Grade 3c” were significantly higher than “Grade 1 and 2” and “Grade 3a” (P = 0.02 and P = 0.049 respectively). After adjusting for BMI, the association between Anti-tTG levels and marsh grade groups were exaggerated. Conclusion: It seems that higher Marsh grading is associated with higher level of tTG antibody level and lower body mass index.

**Key Word(s):** 1. Celiac disease; 2. BMI; 3. Marsh;

**PR0371**

**Intestine – Absorption/Secretion/Sensing**

**Efficacy of rifaximin in the treatment of traveler’s diarrhea: a meta-analysis**

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**Objective:** Background: Fluoroquinolones are the mainstay of treatment for traveler’s diarrhea (TD) but its wide spread use have led to increased resistance rates. Rifaximin, a non-absorbable antibiotic for TD caused by noninvasive strains, has significant efficacy against placebo, good tolerability and no relevant bacterial resistance. Objectives: This study aims to determine the efficacy of Rifaximin compared to Ciprofloxacin in the treatment of TD by evaluating time to last unformed stools, clinical wellness and treatment failure. Methods: Search for Randomized clinical trials were done using Medline/Pubmed; Cochrane registry, EMBASE, HERDIN. The authors appraised the trials and disagreements were resolved by repeated discussions. Outcomes analyzed using RevMan software and assessed for heterogeneity. Results: Results: Three (3) randomized, double-blind, prospective clinical trials were reviewed. A total of 610 patients were included; 354 and 256 in the rifaximin and ciprofloxacin arm. The TLUS favors ciprofloxacin (MD 3.20 95%CI [−1.58, 7.98], I2 = 41%); Clinical wellness favors rifaximin (RR = 0.96, 95%CI [0.89, 1.03], I2 = 0%); and
PR0373

Intestine – Absorption/Secretion/Sensing

A logistic regression analysis of risk factors for ischemic colitis

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Objective: To investigate the risk factors of ischemic colitis, and make useful exploration for the prevention and treatment of ischemic colitis.

Methods: In January 2008-August 2012, 108 patients with the diagnosed ischemic colitis in Guangzhou Red Cross Hospital affiliated to the Medical College of Ji Nan University were analyzed retrospectively with multivariate unconditioned logistic regression analysis and other statistical methods, in order to find risk factors associated with ischemic colitis

Results: Ischemic colitis lacked of characteristic clinical manifestations, and the main clinical symptoms were abdominal pain, diarrhea, hematochezia, which were mainly seen in left colon. Ischemic colitis mostly occurred in patients older than 50 years. The morbidity of ischemic colitis of female is higher than that of male. Laboratory tests showed that white blood cells, neutrophils, D-dimer, cholesterol and triglyceride were higher than normal. 16 patients underwent abdominal CT examination, 7 of these 16 patients were found with colon broad hyperemia, edema, including 4 patients were found with colon wall thickening. 16 patients underwent digital subtraction angiography examination. Among these 16 patients, 3 patients were found with colon intestinal wall vascular congestion, 3 patients were found with mesenteric artery stenosis, 1 patient was found with ascending colon aneu-rysms. 108 patients got colonoscopies examination, colonoscopy showed that colonic mucosa has different degree of congestion, edema, erosion, ulcer. Multivariate unconditioned logistic regression analysis showed that:

- Hyperlipidemia OR = 2.559,95% CI = 1.275–5.139; coronary heart disease OR = 2.926,95% CI = 1.097–7.799; NSAID OR = 3.653,95% CI = 1.180–11.306; intestinal obstruction OR = 5.742,95% CI = 1.688–19.518; diarrhea OR = 4.332,95% CI = 1.738–10.794. Coronary heart disease, diarrhea, hyperlipidemia, intestinal obstruction, NSAID are risk factors of the onset of ischemic colitis

Conclusion: The result of this study showed that ischemic colitis lacks of characteristic clinical manifestations. Coronary heart disease, hyperlipidemia, intestinal obstruction, diarrhea, NSAID are risk factors of the onset of ischemic colitis.

Key Word(s): 1. Ischemic colitis; 2. Risk factors; 3. Clinical features;

PR0374

Liver cirrhosis and complications

The effect of CREB-1 on TGF-β3-induced smad7 expression in rat hepatic satellite cells

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Objective: Test the effect of transforming growth factor-β3 (TGF- β3) on TGF- β/smad signaling pathway in rat hepatic satellite cells (HSC), due to find out the mechanism which contributes to TGF-β3-resisted liver fibrosis. cAMP-responsive element binding protein-1(CREB-1) is an important transcription factor in TGF-β3 auto-regulation signaling pathway. Methods: 1) HSC were treated with or without exogenous TGF- β3 (10 ng/ml) for 2 hours, total RNA were extracted and the factors in TGF- β/smad signaling pathway were detected by Real-time PCR. 2) HSC were treated with exogenous TGF- β3 in series time, and total RNA and total protein were collected. Real-time PCR and western-blot were performed to examine the expression of smad7. 3) The most efficiency smad3 siRNA was chosen, control plasmid and siRNA-smad3 were transfected into HSC by following Lipofectamine2000 protocol, after 24 h culture, cells were treated with or without exogenous TGF- β3 for 2 hours, then total RNA were collected, smad3 and smad7 expression was detected by Real-time PCR. 4) According to the Lipofectamine2000 protocol, control plasmid, siRNA-CREB-1 and pSRV-CREB-1 were trans-infected into HSC, after culturing for 24 h, cells were exposed with or without exogenous TGF- β3 for 2 hours, then total RNA were collected, CREB-1 and smad7 expression was detected by Real-time PCR. 5) HSC were pretreated with ERK inhibitor (20 mM), JNK inhibitor (20 mM), p38 inhibitor (20 mM) and PKA inhibitor (5 mM) for 30 min, and cells were presented with or without exogenous TGF- β3 for 2 hours, total RNA were collected and smad7 expression was detected by Real-time PCR.

Similar to method 4, HSC were trans-infected with control plasmid, siRNA-CREB-1 and pSRV-CREB-1, after 24 h culture, cells treated with or without exogenous TGF- β3 (10 ng/ml) for 2 hours, then smad7 mRNA expression was tested by Real-time PCR.

Results: 1) Exogenous TGF- β3 significantly increased the expression of smad6 and smad7 in HSC, the induction is 1.5-fold and 3.6-fold higher than that in control (P<0.001), but Exogenous TGF- β3 had no effect on the expression of smad3, smad4, TGF- β type 1 receptor, TGF- β type 2 receptor, smurf1 and smurf2 (P>0.05). 2) Exogenous TGF- β3 increased smad7 expression rapidly, peak at 1 h after the stimulation (4.1-fold higher compared to control), but the induction of protein was decreased after 2 hours stimulation, all of the inductions had statistic significance within 12 hours (P<0.05). 3) In HSC, smad3 deficiency markedly reduced the smad7 mRNA expression in the basal condition (50% reduction), which was trans-infected with control plasmid without exogenous TGF-β3 treatment (P<0.05). Also, smad3 deficiency obviously inhibited exogenous TGF-β3-induced smad7 expression, that is an approximated a half reduction compared to the positive control (P<0.05). 4) The inhibition or over-expression of CREB-1 could not influence the expression of smad7 in HSC (P>0.05), but CREB-1 deficiency significantly inhibited exogenous TGF-β3-induced smad7 expression (42% reduction, P<0.05), while the over-expression of CREB-1 enhanced the induction of smad7 mediated by exogenous TGF-β3 (P<0.05). 5) After the pretreatment of inhibitors, there were no changes of smad7 in basal condition, but p38 inhibitor obviously blocked the induction of smad7 by exogenous TGF-β3, that is a 40 percent decreasing (P<0.05), while other inhibitors (ERK inhibitor, JNK inhibitor and PKA inhibitor) had no effect on the induction of smad7 by exogenous TGF-β3 stimulation (P>0.05). 6) In basal condition, exogenous TGF-β1 also increased smad7 mRNA expression in HSC (1.5-fold higher than control, P<0.05), but this induction is lower than it by exogenous TGF-β3. Additionally, the inhibition and over-expression of CREB-1 had no effect on exogenous TGF-β1-induced smad7 expression in HSC (P>0.05).

Conclusion: 1) TGF-β3 increases smad7 expression in HSC. 2) smad3 is an important transcriptional regulator for smad7. 3) CREB-1 is critical for TGF-β3-induced smad7 in HSC. 4) TGF-β3 activates CREB-1 by p38 in HSC. Taken together, TGF-β3 might activate both smad3 and CREB-1, and CREB-1 is an important co-transcriptional factor which enhances the binding of smad3 with DNA, caused a continuous induction of smad7 in HSC, and CREB-1 might contribute to resist liver fibrosis.

Key Word(s): 1. Liver fibrosis; 2. CREB-1; 3. TGF-β3; 4. smad7;
Liver cirrhosis and Complications
The activation of hepatocyte growth factor promoted hepatic stellate cell apoptosis via rho pathway
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Objective: To investigate the effect of activated hepatocyte growth factor (HGF) on hepatic stellate cells (HSCs) apoptosis and the regulation of Rho pathway. Methods: HSCs were divided into the following groups: ① the blank control group: HSCs were cultured alone; ② the control group: a. HSCs were cultured with exogenous HGF (50 ng/ml), b. HSCs were cultured with exogenous HGFA (70 ng/ml); ③ the experimental group: HSCs were co-cultured with exogenous HGF and HGFA; ④ HGF inhibitor groups: HSCs were incubated with c-met (500 ng/ml) blockers for 6 hours, and then with exogenous HGF and HGFA; ⑤ Rho pathway inhibitor groups: HSCs were cultured with Y-27632 (10 ng/ml), and then with exogenous HGF and HGFA. The activation of HSC was determined by analysis of alpha smooth muscle actin (α-SMA) expression. The best intervention concentration of Y-27632 was detected by MTT assay; HSCs apoptosis was tested by Flow Cytometry; the expression of HGF alpha chain was determined by Immunofluorescence; RhoA mRNA levels were evaluated by PCR. Protein expressions were evaluated by immunohistochemical staining and Western blot analysis. Results: ① Y-27632 at 10 μmol/L caused obviously HSCs inhibition (P < 0.01) compared with other concentration groups. ② The expression of the HGF-α chain showed time-dependent increased manner (P < 0.01). However, there was no statistic difference (P > 0.05) in blank control group and control group. ③ The apoptosis rate increased over time (24 h, 48 h, 72 h) (P < 0.01). The experimental group caused the highest levels (P < 0.01). ④ The expression of RhoA mRNA in experimental group decreased over time (P < 0.01) and caused the lowest levels compared with other groups (P < 0.01). ⑤ The expression of RhoA proteins in experimental group decreased over time (P < 0.01) and caused the lowest levels compared with other groups (P < 0.01). Conclusion: The activation of hepatocyte growth factor promotes the apoptosis of hepatic stellate cell via downregulating Rho pathway.

Key Word(s): 1. HGF; 2. HGFA; 3. HSC; 4. RhoA;

Liver cirrhosis and Complications
Epidemiology of drug-induced liver injury in China: including 21 789 patients
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Objective: The epidemiology of drug-induced liver injury (DILI) in China has rarely been studied before. The aim of the present study was to determine the etiology of DILI in a Chinese population by reporting a systematic analysis of Chinese literature published from 1994 to 2011. Methods: A comprehensive database search of the Chinese literature was performed to obtain all of the relevant studies. The data, including the drug names and patients’ sex, age, clinical classification and prognosis, were collected and analyzed. Results: In this research, we found approximately 279 studies, including 24112 patients. There were 265 reports the sex of 21789 patients, 11787 males and 10002 females. The therapeutic included (but not limited to) tuberculostatics, CAMs (complementary and alternative medicines), antibiotics, NSAIDs (Non-Steroidal Antiinflammatory Drugs), anti-neoplastics, central nervous system agents, antithyroid drugs, and immunomodulators. Of all these drugs, tuberculostatics and CAMs were the most common etiologies of DILI in China. Conclusion: DILI in China has a different etiology than in Europe and America. NSAIDs, which are the most common causes of DILI in Western populations, are uncommon in China. Consequently, government, physicians and patients should pay more attention to potential CAMs use in DILI.

Key Word(s): 1. Etiology; 2. liver injury; 3. tuberculostatics; 4. Drug-induced;

Liver cirrhosis and Complications
Application of argon plasma coagulation on esophageal varices classified as LeD0.3Rf0
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Objective: Endoscopic variceal ligation and sclerotherapy are the main treatment for esophageal varices, but not for varices with diameter less than 3 mm. The aim of this study is to assess the clinical usefulness of argon plasma coagulation (APC) in the treatment of esophageal varices. Methods: Seven patients with esophageal varices treated with APC were investigated retrospectively in our hospital since 2007. According to LDRf classification and Child-Pugh score, the esophageal varices and liver function were recorded respectively. After APC, the recurrent period of varices was calculated, and the recurrent bleeding plus other related complications were analyzed. Results: View of the obtained clinical materials, all the seven patients were recorded as LeD0.3Rf0 and Child A. The recurrent periods were from 4 to 17 months. One patient presented with gastric varices bleeding on the third month after APC and another patient with fever. Conclusion: APC can treat esophageal varices classified as LeD0.3Rf0 effectively and safely. Repeated APC on newborn esophageal varices with diameter less than 3 mm can reduce the formation of bigger varices and further the possibility of variceal bleeding.

Key Word(s): 1. APC; 2. esophageal varices;

Liver cirrhosis and Complications
serum differentially expressed proteins with iTRAQ combined with MALDI-TOF-MS among liver fibrosis
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Objective: To analyze and compare the expression level of serum differentially expressed between the proteins of HBV relative liver fibrosis and the healthy control by the technique of isobaric tags for relative and absolute quantitation (iTRAQ) combined with mass spectrometry. Methods: 30 cases of HBV relative liver fibrosis and 30 cases of healthy volunteer were selected, after matched their gender and age, Every 10 cases as a group of liver fibrosis or healthy control serum, then the serum samples were removed 14 kinds of high-abundant proteins and screened for serum differentially expressed protein was performed by using iTRAQ labeling and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry, (MALDI-TOF-MS), which the filter conditions are: peptides > 2, Unused > 1.3, Pval < 0.05, 115:113 > 1.2 and 115:113 < 0.8, the last, to analyze these differentially expressed proteins with biological methods by
bioinformatics. **Results:** After conduct database searches, a total of 274 kinds of proteins or peptides were identified in the serum of both HBV relative liver fibrosis and healthy control by mass spectrometry, with 20 kinds of differentially expressed proteins being screened out by setting the filter conditions. In the 20 proteins, the expression level of 13 proteins were up-regulated, while the expression level of 7 proteins were down-regulated. These differentially expressed proteins are involved in 48 kinds of biological precesses, 8 kinds of cellular components and 12 kinds of molecular pathways. The figure of 5 kinds of protein functional interaction network shows that APOC3, CLU, C4B, CRP, APOE is the crossing point of the functional network. **Conclusion:** It a highly efficient and reliable method which is iTRAQ labeling combined with MALDI-TOF-MS for the proteins quantitative and quantitative. These proteins of APOC3, CLU, C4B, CRP and APOE may play an important role in the development and progression of HBV related liver fibrosis
**Key Word(s):** 1. Liver fibrosis; 2. HBV; 3. iTRAQ; 4. Serum marker;

**PR0380**
**Liver cirrhosis and Complications**
**Autologous bone marrow – derived liver stem cells reduce liver fibrosis and improve liver function**

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**Objective:** To determine the safety, feasibility and therapeutic effect of in vitro-expanded autologous bone marrow-derived liver stem cells (BMDLSC) transplantation in hepatic cirrhotic rats treated with carbon – tetrachloride. **Methods:** Liver cirrhosis rat models were prepared and then divided randomly into three groups, 25 in each group. In rats, we analyzed the effect of different cells infusion in three experimental groups (group A, bone marrow cell infusion + CCI(4); group B, bone marrow – derived liver stem cell infusion + CCI(4); group C, bone marrow stem cell infusion + CCI(4)). **Results:** We observed significantly increased average serum albumin levels and higher expression of Differentiated liver cells, green fluorescent protein (GFP), matrix metalloproteinase 9 (MMP9), and proliferating cell nuclear antigen in the livers of group A. We observed MMP9/GFP double-positive cells in the cirrhotic livers. A significant decrease in the liver fibrosis areas was observed in group A. There were significant differences in ALT, ALB, TBIL and AFP in three groups, P < 0.05. **Conclusion:** Infusion of bone-marrow-derived cultured liver stem cells improved liver function and liver fibrosis in rat with CCl4-induced cirrhosis.
**Key Word(s):** 1. stem cells; 2. liver fibrosis; 3. cirrhosis; 4. transplantation;

**PR0381**
**Liver Cirrhosis and Complications**
**The observation of clinical effect on treatment of decompensated**

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**Objective:** To observe the clinical efficacy of autologous bone marrow stem cells transplantation via hepatic artery in treatment of patients with decompensated liver cirrhosis. **Methods:** We divided 40 cases of decompensated liver cirrhosis by clinical diagnosis randomly into two groups, treatment group and control group. The conventional treatment was given to both groups and Autologous bone marrow stem cells were infused into the hepatic artery in thetreatment group. At week 2, 4, and 8 after transplantation, AST, ALT, TBIL, ALB, PT, AFP and Chilli-Pugh scores were detected, and the improvement of symptoms and adverse reactions were observed after transplantation. **Results:** Compared with group C, liver function indexes such as serum ALT, AST, ALB, Tbil and cholinesterase of patients in group T ameliorated in 2, 4 and 8 weeks after treatment respectively (P<0.01). **Conclusion:** After transplantation of autologous bone marrow, the liver function and general well-being of patients were significantly improved. This method was safe and effective in the treatment of patients with decompensated cirrhosis.
**Key Word(s):** 1. stem cells; 2. Transplantation; 3. cirrhosis;
PR0382
Liver Cirrhosis and Complications
Does TIPS with covered stents modify the natural course of decompensated cirrhosis?
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Objective: To analyze the impact of transjugular intrahepatic portosystemic shunt (TIPS) on survival compared to a control group treated medically

Methods: 65 cirrhotic patients with refractory ascites (RA) or recurrent bleeding varices (BV) were treated from 2008 to 2012 by the implantation of a covered TIPS. Control group was cirrhotic patients hospitalized during the same period matched for age, sex, BMI, Child-Pugh score, HCC, but without recurrent decompensated cirrhosis

Results: TIPS implantation was successful in 100% of cases. The mean portosystemic pressure gradient decreased from 18.5 ± 4.5 mmHg to 5.8 ± 2.6 mm Hg. TIPS-related complications affected 44.5% of the patients: recurrent encephalopathy (21.5%), stent thrombosis (9%), strangulated umbilical hernia (7.5%), congestive heart failure (4.5%), sepsis (1.5%), liver ischemia (1.5%). Rate of infection did not differ between the 2 groups. This 2 groups were similar concerning: age (61 ± 10), Child-Pugh score (B: 66%, C: 34%), MELD score, existence of an advanced HCC (9%), underlying liver disease, presence of type 2 diabetes, presence of hyponatremia, presence of portal vein thrombosis, presence of acute alcoholic hepatitis, presence of hepatorenal syndrome. Esophageal varices, grade 2 or 3 (p = 0.003), refractory ascites (p = 0.01), an increase in the portosystemic gradient (p = 0.008) were significantly more frequently in the TIPS group. Total mortality was not significantly different between the 2 groups. Median follow up was 12 months. Median survival was 26 months (TIPS) vs 27 months (ns). Conclusion: in this series, TIPS with covered stents for refractory ascites or recurrent bleeding varices restore a survival comparable to a control group with a first decompensation of cirrhosis, without severe portal hypertension

Key Word(s): 1. refractory ascites; 2. cirrhosis; 3. covered TIPS; 4. melflufen score;

PR0383
Liver Cirrhosis and Complications
The evaluation of G-CSF for mobilization of autologous bone marrow stem cells in cirrhosis
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Objective: To evaluate the safety of autologous bone-marrow stem cells mobilization by intravenous injection of granulocyte colony stimulating factor (G-CSF) in patients with decompensated liver cirrhosis patients.

Methods: Fifty-one patients with decompensated cirrhosis patients were received intravenous injection of G-CSF (4 µg/kg/d) before treatment for 2 days. During the period of treatment, attention was paid to the following side effects bone pain, fever, gastrointestinal effects, and laboratory examination.

nation. Results: The incidence of complications during G-CSF treatment was 45.5%, including that of bone pain being of 13.6%, fever being of 27.2%, reinfection being of 5%. Conclusion: In patients with cirrhosis, intravenous injection of G-CSF to mobilize autologous bone-marrow stem cells is feasible and safe.

Key Word(s): 1. liver cirrhosis; 2. Stem cell; 3. Transplantation; 4. G-CSF;

PR0384
Liver Cirrhosis and Complications
Effects of ursolic acid on NOX subunit and its regulation on downstream signal pathways in rat HScs
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Objective: To observe the effects of ursolic acid (UA) on the expression of NOX subunit and its regulation on downstream signal pathways in rat activated hepatic stellate cells (HSCs), and explore the underlying mechanism.

Methods: HSC-T6 cells (rat hepatic stellate cells) in the exponential growth phase were divided into six groups: normal control group; leptin (100 ng/ml) treated; leptin treated together with UA (50 μM); leptin treated together with NOX inhibitor DPI (20 μM); leptin treated together with P38MAPK inhibitor SB203580 (10 μM) and leptin treated together with PI3K inhibitor LY294002 (10 μM). HSC-T6 were treated with medicine and the protein expression of NOX subunit gp91phox, p22phox, p67phox, Rac1 were analyzed with Western blotting.

Results: HSC-T6 were treated for 12 hours with Leptin, the proteins expression of gp91phox, p22phox, p67phox, Rac1 were significantly increased compared with normal control group (all P < 0.01); Treatment with UA, data were presented as relative reduce compared with leptin treatment (all P < 0.01). HSC-T6 were treated for 30 minutes with Leptin, the P38K Akt and P38MAPK levels were distinctly increased compared with normal control group (all P < 0.01); Treatment with UA, data were presented as relative reduce compared with leptin treatment (all P < 0.01). HSC-T6 were treated for 24 hours with Leptin, TIMP-1 level was increased compared with normal control group (P < 0.05); Treatment with UA, data were presented as obvious reduce compared with leptin treatment (P < 0.01); while MMP-1 level was decreased compared with normal control group (P < 0.05); Treatment with UA, data were presented as obvious increase compared with leptin treatment (P < 0.01).

Conclusion: UA decreases the proteins expression of NOX subunit gp91phox, p22phox, p67phox, Rac1, P38K, p-Akt and p-P38MAPK induced by leptin in Rat HSC-T6. UA can decrease protein expression of TIMP-1 and increase MMP-1 expression. The mechanism may be related to inhibiting activation of NOX-P38K/ Akt and P38MAPK signal net.

Key Word(s): 1. HSCs; 2. ursolic acid; 3. NOX oxidase; 4. P38K/Akt and P38MAPK;
Liver Cirrhosis and Complications
Effects of Ursolic acid on hedgehog signaling pathway in rat hepatic stellate cells

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Objective: To explore the mechanism and effects of UA on hedgehog (Hh) signal pathway in hepatic stellate cell (HSC-T6).

Methods: HSC-T6 in the exponential growth phase were divided into four groups: normal control group; leptin (100 ng/ml) treated; UA (50 μM) treated; DPI (20 μM) treated; leptin treated together with UA (50 μM) and leptin treated together with NOX inhibitor DPI (20 μM). HSC-T6 were treated with medicine for 12 hours and mRNA expression of Shh, smo, Gli1/2 were analyzed with RT-PCR. HSC-T6 were treated with medicine for 24 hours and protein expression of Gli2 and Rac1 were analyzed with Western blotting. HSC-T6 were treated with medicine for 12 hours, 24 hours, 48 hours and HSC-T6 proliferation was analyzed with MTT.

Results: HSC-T6 were treated for 12 hours with Leptin, UA and DPI both decrease the mRNA expression of Shh, Smo, Gli2 induced by leptin (all \(P < 0.01\)), but leptin, UA and DPI had no effect on the mRNA expression of Gli1 (\(P > 0.05\)). HSC-T6 were treated for 24 hours with Leptin, UA and DPI both decreases the protein expression of Rac1, Gli2 induced by leptin (all \(P < 0.01\)). HSC-T6 were treated for 12 hours with Leptin, leptin promote the HSC-T6 proliferation (\(P < 0.01\)), and UA can inhibits the HSC-T6 proliferation induced by leptin (\(P < 0.01\)).

Conclusion: UA can inhibit expression of Shh, Smo, Gli2 mRNA and lower expression of Gli2 protein in hedgehog signal pathway of HSC-T6 induced by the leptin, and inhibit HSC-T6 growth and proliferation. It may be related to depressing expression of NOX subunit Rac1 protein by UA.

Key Word(s): 1. ursolic acid; 2. HSCs; 3. hedgehog; 4. NOX oxidase;
PR0386
Liver Cirrhosis and Complications
Ultrafiltration concentrate reinfusion treatment of intractable ascites of cirrhosis
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Objective: To determine the treatment efficacy of ultrafiltration concentrate reinfusion for cirrhosis patients with refractory ascites. Methods: The 560 cases of patients with cirrhosis whose ascites duration for 1 to 3 months and abdominal perimeter between 80–123 cm were treated with WLFHY – 500 type ascites ultrafiltration computer system. Liquid ultrafiltration volume was 3000–12000 ml each time (an average of 6000–7000 ml). Weight, abdominal perimeter, 24 hour urine output, serum creatinine, blood urea nitrogen, the changes of electrolyte and albumin of the patients were observed before and after 1 week treatment.

Results: Compared with before treatment, after treatment the reduction of weight and abdominal perimeter in patients was significant (p < 0.01). 24 hours urine volume, serum creatinine, blood urea nitrogen, electrolyte and albumin were no statistical difference (p > 0.05). 408 cases were markedly effective, significant efficiency 72.8%. 138 cases were effective (24.6%) and the total effective rate was 97.4%. Conclusion: Ultrafiltration concentrate reinfusion treatment is an effective and safe treatment for intractable ascites.

Key Word(s): 1. cirrhosis; 2. Ultrafiltration; 3. ascites;

PR0387
Liver Cirrhosis and Complications
Sodium Restriction verse Sodium Unrestriction for cirrhotic ascites: A Meta-analysis
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Objective: There has been controversial on whether a sodium restricted diet should be used in cirrhotic patients with ascites in recent years. This meta-analysis was aimed to evaluate the beneficial and harmful effects of sodium restriction versus sodium restriction for cirrhotic ascites. Methods: We searched relevant randomized controlled trials (RCTs) from CNKI, CBM, VIP, Wangfang, The Cochrane Library, ISI web of knowledge, PUBMED and EMBASE. We traced the related references; searched literatures by Google Scholar and Scirus; hand searched Chinese Journal of Hepatology (1993–2013), Conference Papers and dissertation; contacted all primary authors regarding missed randomised trials. We made quality assessment of qualified RCTs by the Cochrane Handbook 5.1 and used RevMan 5.1 provided by the Cochrane Collaboration to perform meta-analysis. Results: Ten literatures come into Meta analysis with two different sodium dose, containing 948 cases in total.(1) Salt intake was restricted to 21–42 mmol per day: Compared with a sodium restricted diet, a free salt diet shows a statistically significant benefit in shortening the time of ascites disappearance and hospitalisation. Complete ascites disappearance, urine volume and average serum sodium are also in favor of a free salt diet. Hyponatremia and HRS occurred less frequently with a free salt diet. No significant differences were seen in the mortality.(2) Salt intake was restricted to 80 mmol per day: The same as in the first sodium dose group, a free salt diet also shows a statistically significant benefit in...
shortening the time of ascites disappearance and hospitalisation in comparison with a sodium restricted diet. Complete ascites disappearance, urine volume and average serum sodium are also in favor of a free salt diet. Hyponatremia occurred less frequently with a free salt diet. No significant differences were seen in the mortality and the rates of HRS. Conclusion: Current evidences indicate that a free salt diet can significantly improve the efficiency for cirrhotic ascites in comparison with a sodium restricted diet. Sodium unrestricted diet has a great advantage in shortening the time of ascites disappearance and hospitalisation, increasing urine volume and average serum sodium and decrease the rate of hyponatremia. The results still need to be proved by high quality RCTs.

Key Word(s): 1. Cirrhotic ascites; 2. sodium unrestriction; 3. sodium restriction; 4. meta-analysis;

| Studv or Subgroup | Sodium unrestriction | Sodium restriction | Mean Difference | Mean Difference |
|-------------------|---------------------|--------------------|----------------|----------------|
|                   | Mean | SD  | Total | Mean | SD  | Total | Weight | IV. Fixed. 95% CI | IV. Fixed. 95% CI |
| 1.1.1 21-42 mmol/d |      |     |       |      |     |       |        |                   |                   |
| Gauthier 1986     | 133.4 | 5.3 | 76    | 135.5 | 4.3 | 64    | 0.0%   | -2.10 [-3.69, -0.51] |
| Xibing Gu 2012    | 137.59 | 2.24 | 97    | 128.7 | 2.28 | 101   | 39.8%  | 8.89 [8.26, 9.52]   |
| Liao et al. 2008  | 137.61 | 2.33 | 33    | 128.17 | 2.22 | 33    | 13.1%  | 9.44 [8.34, 10.54]  |
| Bishay 2009       | 133.8 | 3.2  | 30    | 129.5 | 3.8  | 30    | 5.0%   | 4.30 [2.52, 6.08]   |
| Xie and Wu 2008   | 137.18 | 2.18 | 38    | 128.69 | 2.09 | 38    | 17.1%  | 8.49 [7.53, 9.45]   |
| Li et al. 2009    | 137.51 | 2.21 | 40    | 128.73 | 2.25 | 40    | 16.5%  | 8.78 [7.80, 9.76]   |
| Qian et al. 2011  | 137.61 | 3.14 | 36    | 130.64 | 2.72 | 36    | 8.6%   | 6.97 [5.61, 8.33]   |
| Subtotal (95% CI) | 274  |       |       | 278  |       |       | 100.0% | 8.48 [8.08, 8.88]   |

Heterogeneity: Ch² = 30.92, df = 5 (P < 0.00001); 1² = 84%
Test for overall effect: Z = 41.87 (P < 0.00001)

| 1.1.2 80 mmol/d  |
|------------------|
| Zhang et al. 2007| 137.58 | 6.27 | 49    | 128.42 | 6.08 | 49    | 48.6%  | 9.16 [6.71, 11.61] |
| Wang et al. 2008 | 138  | 6    | 49    | 128    | 6    | 49    | 51.4%  | 10.00 [7.62, 12.38]|
| Subtotal (95% CI)| 98   |       |       | 100.0% |       |       | 9.59 [7.89, 11.30] |

Heterogeneity: Ch² = 0.23, df = 1 (P = 0.63); 1² = 0%
Test for overall effect: Z = 11.03 (P < 0.00001)
Test for subgroup differences: Ch² = 1.55, df = 1 (P = 0.21), 1² = 35.3%

PR0388
Liver Cirrhosis and Complications
Hepatocirrhosis after B hepatitis combined acute lymphoblastic leukemia – a case report
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Objective: Hepatocirrhosis often combines pancytopenia which is caused by hypersplenism and is treated by partial splenic artery embolization. However, pancytopenia may be a manifestation of hematological diseases. We showed a case – hepatocirrhosis after B hepatitis combined acute lymphoblastic leukemia. Methods: A 61-year-old man presented with hypodynamia and anorexia for a duration of 4 weeks. He denied vomiting, abdominal pain, fever, jaundice and body weight loss. Then, the patient went to local hospital visiting. Ultrasonic abdominal examination showed hepatocirrhosis and splenomegaly. Esophagogastroduodenoscopy showed esophageal varices and blood routine examination showed pancytopenia. Copy number of HBV-DNA was 1.93x10⁵ cp/ml. The doctor diagnosed the patient as hepatocirrhosis after B hepatitis and gave his comprehensive liver-protecting therapy. However, no amelioration was found in clinical symptoms. So the patient came to our hospital. The patient denied hepatitis history but had a history of blood transfusion because of surgical treatment of left upper arm trauma twenty years ago. After admission, physical examination revealed a temperature of 37°, a pulse rate of 104 beats per minute (bpm), a blood pressure of 146/94 mmHg, and a respiration rate of 18 breaths per minute. There was appearance of anemia, but no liver palms and spider angiomatas. Petechia and ecchymosis didn’t present on skin all over the body. Superfacial lymph nodes were palpable. Examination of the heart and lungs revealed no abnormal findings. Abdominal physical examination revealed megalosplenia. The initial laboratory workup was as follows: hemoglobin, 10.8 g/dL; white blood cells, 900/mm³ with a normal differential count; platelets, 42000/mm³; blood glucose, 5.7 mmol/L; blood urea, 4.8 mmol/L; creatinine, 76 μmol/L; SGOT, 28 IU/L; SGPT, 30 IU/L; LDH, 201 IU/L; total bilirubin, 11.6 μmol/L; direct bilirubin, 5.3 μmol/L; and Na+, 136 mmol/L; K+, 3.9 mmol/L; AFP 2.30 ng/mL; CEA 4.2 9 ng/mL; CA199 52.28.5 U/mL, higher than normal. Fecal occult blood test was negative. Abdominal computed tomography showed hepatocirrhosis and splenomegaly. He refused bone marrow puncture and demanded partial splenic artery embolization. But laboratory workup was as follows in a month of postoperation: hemoglobin, 100 g/dL; white blood cells, 1100/mm³ with a normal differential count; platelets, 27000/mm³. Bone marrow puncture showed acute lymphoblastic leukemia. Results: Hepatocirrhosis combined acute lymphoblastic leukemia. Conclusion: Hepatocirrhosis patients combining pancytopenia must do bone marrow puncture to exclude hematological diseases.

Key Word(s): 1. Hepatocirrhosis; 2. B hepatitis; 3. pancytopenia; 4. acute leukemia;
**PR0389**

**Liver Cirrhosis and Complications**

**BMSC promoted HSCs apoptosis by activation of HGF and downregulation of Rho signaling pathway**

**Presenting Author:** LIUPING WEI  
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**Affiliations:** The First Affiliated Hospital of Guangxi Medical University

**Objective:** To explore the mechanism that bone marrow mesenchymal stem cells (BMSCs) paracrine hepatocyte growth factor (HGF) that effects on apoptosis of hepatic stellate cells (HSCs) and regulation of Rho pathway in vitro.  

**Methods:** In this study, cells were divided into the following four groups:  

1. The control group: primary HSCs cultured alone;  
2. The experimental group: a. the control group: BMSCs + HSCs; b. HGF inhibitor group: primary HSCs treated with 3 μg/ml of PHA665752; c. Rho pathway inhibitor group: primary HSCs treated with 30 μmol/L of Y-27632.  

Using transwell insert establish co-culture system in the plastic plate, the cells were observed dynamically under inverted phase contrast microscope after 24, 48 and 72 h. Expression of alpha smooth muscle actin (α-SMA) in HSCs were evaluated by immunohistochemistry. The best intervention concentrations of Y-27632 and PHA665752 were determined by MTT assay. The apoptosis rate of HSCs were measured by Annexin-V-FITC/propidium iodide (PI). α-SMA mRNA and protein levels were measured by quantitative real time polymerase chain reaction (Q-PCR) and Western blot, respectively. The concentration of HGF and HGFα were quantified by enzyme-linked immunosorbent assay (ELISA).  

**Results:**  

1. Under Inverted phase contrast microscope cells were observe the good condition of BMSCs performance large cell body, refract well, a typical long spindle; good condition of HSCs was membrane growth, typical star or polygon, intracellular more grain.  
2. Cultured for 48 h, brown granules were viewed in the cytoplasm within HSCs and light blue nuclear. The results show α-SMA(+) and More than 94% of activated HSCs positive.  
3. The apoptosis rate of HSCs gradually increased at all time points examined, the apoptosis rate of PHA665752 pretreated group was lowest, but the Y-27632 pretreated group was highest, most significant in 72 h (P < 0.05).  
4. The expression of RhoA mRNA and proteins in Y-27632 pretreated group significant decrease over time (24, 48, 72 h) compared with other groups (P < 0.01) and the expression of RhoA mRNA and proteins increased over time (P > 0.01).  
5. The concentration of HGF in experimental groups decrease over time (24 h, 48 h, 72 h), the PHA665752 pretreated group and the Y-27632 pretreated group were significant higher than the control group (P < 0.05).  
6. The concentration of HGF increase over time (24 h, 48 h, 72 h), the concentration of HGFα in the PHA665752 pretreated group was higher than any other groups at any time (P > 0.01).  
7. C6 Y-27632 at 30 μmol/L and PHA665752 at 3 μg/ml caused obviously HSCs apoptosis (P < 0.05).  

**Conclusion:** BMSCs promoted HSCs apoptosis by activating HGF and downregulating RhoA signaling pathway.  

**Key Word(s):** 1. HSC; 2. BMSC; 3. HGF; 4. RhoA; 5. HGFα.

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**PR0390**

**Liver Cirrhosis and Complications**

**Preliminary observation of stem cell characteristics of hepatic stellate cells**

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**Affiliations:** none

**Objective:** End-stage liver disease (ELD) is the common pathway of the acute or chronic liver disease in process. Hepatic stellate cells (HSCs) play a vital role in the development and progression of various liver disease. HSCs are the main extracellular matrix synthesis cells, which its activation and transformation play an important role in liver cirrhosis. Currently, the treatment for ELD is limited, and orthotopic liver transplantation (OLT) may be the best choice. However, OLT has its limitation by that extreme short of donor liver, expensive cost of operation and severe rejection of transplantation. Therefore, we urgently need a new strategy of treatment for ELD in order to improve the quality of patient’s life. Stem cells are a kind of self-renewal and pluripotency cell population. Stem cells can be divided into embryonic stem cells and adult stem cells according to its origin. Liver stem cells belong to adult stem cells, which can be further divided into liver derived stem cells such as oval cells (OVs) and non-liver derived stem cells such as bone marrow hematopoietic stem cells and mesenchymal stem cells. Recently, stem cells transplantation has achieved initial results in acute or chronic liver disease, but its pros and cons have been still in constant debate. HSCs located in the space of Disse are liver stromal cells which of great significance be involved in the liver’s physiological and pathological process. Previous studies have shown that HSCs activated in the acute or chronic liver disease, transdifferentiated into myofibroblasts, secreted a mass of collagens and extracellular matrix, which seriously damaged liver function and metabolism yet its normal morphology ever changed. Not until now, there has been reported numerous about HSCs but rarely referred to its further biological function or embryonic origin, which has been remained unknown. Therefore, we design our research as follows: 1. Isolation and identification of HSCs. 2. Detection of HSCs’ stem cell markers. Select stem cell markers of HSCs’ probably embryonic origin through RT-PCR and ICC. 3. Differentiation of HSCs into hepatocyte-like cells. Observed differentiation of HSCs transformed into hepatocyte-like cells through cytokines induction in vitro. To sum up, we illustrated that: 1. Primary HSCs expressed some stem cell markers. 2. HSCs could differentiate into hepatocyte-like cells after cytokines induction in vitro. To prove that HSCs might possess stem cell characteristic, and HSCs might be a population of stem cells/progenitors in liver.  

**Methods:** 1. Isolation of primary HSCs of rat. SD rat weighted approximate 450–500 g, isolated HSCs from two step include primary liver perfusion combined with isolated liver perfusion and one step only consist of primary liver perfusion separately, then acquired target cells from density gradient centrifuge via medium 60% percoll. 2. Identification of rat HSCs. Identified of HSCs’ morphology, 328 nm autofluorescence, lipid droplets and specific cell markers. 3. Detection of stem cell marker from HSCs. Differentiated HSCs stem cell markers by RT-PCR and ICC. 4. Cytokines inducted HSCs differentiated into hepatocyte-like cells. Two groups, control group cultured 24 h without cytokines, while the experimental group cultured within bFGF 20 μg/L, FGF4 20 μg/L, HGF 20 μg/L, IL-6 1 μg/L for first 3 days, then followed only FGF4 20 μg/L for another 4 days. 5. Detected induced HSCs before and after whether expressed hepatocyte specific markers’ gene and protein by Real time PCR and ICC. 6. Detected induced HSCs before and after whether expressed stem cell markers’ gene and protein by Real time PCR and ICC. 7. Aquired target cells from rat liver and identified whether they were HSCs by a serial of experiments. 2. Detection of HSCs’ stem cell markers. Select stem cell markers of HSCs’ probably embryonic origin through RT-PCR and ICC. 3. Differentiation of HSCs into hepatocyte-like cells. Observed differentiation of HSCs transformed into hepatocyte-like cells through cytokines induction in vitro. To sum up, we illustrated that: 1. Primary HSCs expressed some stem cell markers. 2. HSCs could differentiate into hepatocyte-like cells after cytokines induction in vitro. To prove that HSCs might possess stem cell characteristic, and HSCs might be a population of stem cells/progenitors in liver.  

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**Conclusion:** BMSCs promoted HSCs apoptosis by activating HGF and downregulating RhoA signaling pathway.  

**Key Word(s):** 1. HSC; 2. BMSC; 3. HGF; 4. RhoA; 5. HGFα.
HSCs has expressed after induction by bFGF 20 ug/L, FGF4 20 ug/L, HGF 20 ug/L, IL-6 1 ug/L that both in mRNA transcription of AFP (p < 0.05) and ALB (p < 0.01) and protein level. Compared to control group, the stem cell markers of primary HSCs has dramatically decreased after induction by bFGF 20 ug/L, FGF4 20 ug/L, HGF 20 ug/L, IL-6 1 ug/L in the mRNA transcription of P75NTR (p < 0.05) and CD90, c-kit, sox2, oct-4 (p < 0.01). Proteins for stem cell markers were also significantly decreased or even undetectable. Conclusion: The study reported an available method acquiring for high quality and quantity of primary HSCs of rat liver. Primary HSCs expressed stem cell markers such as P75NTR, CD90, c-kit, sox2 and oct-4, in which both mRNA transcription and protein level, which speculated HSCs might possess stem cell characteristics. HSCs had probability of differentiation to hepatocyte-like cells by cytokines induction in vitro. Meanwhile, HSCs expressed hepatocyte specific marker AFP and ALB both in gene and protein. During induction by cytokines, HSCs’ stem cell markers has decreased significantly, which possibly prompted HSCs might have potential stem cell characteristics and a group of potential stem cells or progenitors in liver. The study provided a method of cytokines induction to differentiate HSCs to hepatocyte-like cells in a short time, which were the foundation of further mechanism study. Stem cell markers of P75NTR, CD90, c-kit, sox2 and oct-4 might be available in further study on HSCs stem cell characteristics.

Key Word(s): 1. stellate cells; 2. stem cell; 3. induction; 4. differentiation;

PR0391
Liver Cirrhosis and Complications
The construction and detection of a plasmid with a specific promoter targeted HSC
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Corresponding Author: YUHU SONG
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Objective: To construct an eukaryotic expression plasmid with a specific promoter targeted the activated hepatic stellate cell (HSC) and detect its expression in vitro. Methods: The luciferase gene coding sequence was amplified from PMIR-luciferase using polymerase chain reaction (PCR). The amplified product was digested with BamHI and Kpn1 and cloned into the Bam H1 and Kpn1 sites in Pspmp8 plasmid under an αSMA promoter component. The recombinant was sequenced to assess the orientation of the insert and the correctness of the sequence. We named this recombinant Pspmp8+Luciferase. Mouse hepatic stellate cells (HSCs) were isolated from kunming mice’s livers using the way of density gradient centrifugation. Isolated HSCs were activated after being cultured and passaged numbers of days. Expression of αSMA was determined by western blot and immunofluorescence. Pspmp8+Luciferase and Renilla luciferase vector were co-transfected HSCs, hepatic cells and kuffer cells. PeGFP plasmid and Renilla luciferase vector were co-transfected the above cells as the negative control. Using Dual-Luciferase Reporter Assay System detected the expression of the two plasmids in HSCs, hepatic cells, kuffer cells.

Results: ① The Pspmp8+Luciferase sequence and the orientation of the insert were sequenced correct. ② The cells isolated from mice livers could express αSMA determined by western blot and immunofluorescence. So the isolated cells were HSCs and had been activated. ③ The Pspmp8+Luciferase could express luciferase in HSCs, but not in kuffer cells and hepatic cells detected by Dual-Luciferase Reporter Assay System. Conclusion: The Pspmp8+Luciferase containing the αSMA promoter could express specifically in activated HSCs. This suggested that Pspmp8+Luciferase containing αSMA promoter could be used as an specific vector targeted activation HSCs, further more it may be recombined and used in the fibrosis gene therapy.

Key Word(s): 1. targeted therapy; 2. HSCs; 3. αSMA promoter; 4. liver fibrosis;
Liver Cirrhosis and Complications
TIPS combined with stem cell transplantation in treatment of liver cirrhosis

Objective: To investigate the safety, feasibility and effectiveness of the autologous bone marrow-derived stem cell transplantation combined with the transjugular intrahepatic portosystemic shunt (TIPS) in treatment of the decompensated liver cirrhosis. Methods: Five patients (2, Child-Pugh class B; 3, Child-Pugh class C) with the decompensated liver cirrhosis due to hepatitis B underwent the combined treatment of TIPS and the bone marrow-derived stem cell transplantation. Their clinical symptoms and signs, biochemistry indices, and endoscopy findings were evaluated by the comparison of the observations before and after the combined treatment. The patients’ one-year follow-up was evaluated. Results: After the combined treatment, ascites was alleviated in all the patients. The follow-up at 1, 4, 12, 25 and 52 weeks after treatment showed that their clinical symptoms and signs as well as biochemistry indices and endoscopy findings were significantly improved. Varices in the esophagus and the gastric fundus were alleviated with no upper gastrointestinal bleeding. The follow-up revealed that no refractory ascites was found except a little ascites in some of the patients. Serum albumin was normal or slightly lowered. Liver function was significantly improved, which was indicated by a significant decrease in the levels of alanine aminotransferase, total bilirubin, and prothrombin time (P < 0.01). Their liver cirrhosis was classified as Child-Pugh class B disease. Conclusion: TIPS combined with the bone marrow-derived stem cell transplantation is remarkably effective in treating the decompensated liver cirrhosis. This combined treatment has advantages of relative safety, feasibility, and effectiveness though more researches are required for its better clinical use.

Key Words: 1. Liver cirrhosis; 2. TIPS; 3. stem cell;

Liver Cirrhosis and Complications
the proliferation and differentiation of megakaryocyte

Objective: To study the role of serum with different concentrations of viral load in hepatitis B cirrhosis patients on the proliferation and differentiation of megakaryocytes in vitro. Methods: According to different viral load of hepatitis B patients with liver cirrhosis divided into 103 cp/ml group and 106 cp/ml group, and normal group. Add the serum which contains viral load of hepatitis B patients with liver cirrhosis and the normal serum to megakaryocyte culture system, detected cell proliferation of megakaryocyte by CCK-8 and Methyl cellulose semi-solid medium for culturing the megakaryocyte colony, determine the megakaryocyte differentiation by measured the expression of CD41 by flow cytometry. Results: (1) The cell CCK-8 OD value in normal group,103 cp/ml group and 106 cp/ml group were 0.402 ± 0.168, 0.267 ± 0.156, 0.246 ± 0.179 respectively. The cell CCK-8 OD value in 103 cp/ml group and 106 cp/ml were significantly lower than that of the normal group (t = 2.733,3.178, all P < 0.05).(2) Different viral load of hepatitis B could significantly inhibit the colony formation of megakaryocyte. The number of colony formation in normal group, the 103 cp/ml group and 106 cp/ml group were 49.0 ± 3.399, 31.5 ± 2.991,27.4 ± 3.062, the difference among these groups were significantly (F = 132.142 P < 0.01). And the number of colony formation in 103 cp/ml group were significantly higher than that of in the 106 cp/ml group (t = 2.906, P < 0.01).(3) The CD41 expression of megakaryocytes in normal group, the 103 cp/ml group and 106 cp/ml group were 36.46 ± 20.941, 57.78 ± 19.531,79.9 ± 16.897. The CD41 expression of megakaryocytes in the 103 cp/ml group and 106 cp/ml was significantly increased compared with the normal group (t = 3.865,2.191, P < 0.05), and the CD41 expression of megakaryocytes in the 103 cp/ml group was lower than that of in the 106 copies/ml group (t = 2.273, P < 0.05). Conclusion: Different concentrations of viral load in hepatitis B cirrhosis patients could affect the proliferation and differentiation of megakaryocytes in vitro. Different concentrations of hepatitis B viral load had a different inhibitory effect on the proliferation of megakaryocytes in vitro, the greater the viral load, the greater the inhibition. But different concentrations of hepatitis B viral load could stimulate the differentiation of megakaryocytes.

Key Words: 1. Liver cirrhosis; 2. Megakaryocytes; 3. Cell proliferation; 4. cell differentiation;

Liver Cirrhosis and Complications Pigment Epithelium-Derived Factor

Objective: To detect the change of CD62P, CD63, PAgT and PEDF level in hepatitis B cirrhosis patients and normal control group, to study its correlation relationship between PEDF level and platelet activation, platelet-aggregation in patients with hepatitis B cirrhosis. Methods: According to Child – Pugh classification standard, hepatitis B cirrhosis patients could be divided into group A, group B and group C, compared to normal people, using flow cytometry to detect CD62P, CD63 positive percentage, platelet aggregation analyzer to detect PAgT, and biotin double antibody sandwich enzyme-linked immunosorbenent method to detect the contents of PEDF. Results: (1) In hepatitis B cirrhosis patients blood, group A, group B and group C CD62P positive percentage (13.25 ± 4.87, 12.26 ± 1.37, 9.81 ± 2.42) was significantly higher than normal control group (4.89 ± 1.80), the difference was statistically significant (P < 0.05); compared with group A, group C positive expression of CD62P was decreased obviously, the difference was statistically significant (P < 0.05).(2) In hepatitis B cirrhosis patients blood, group A, group B and group C CD63 Positive percentage (2.69 ± 1.27, 2.99 ± 1.85, 2.49 ± 1.61) was not different from the normal control group (2.31 ± 1.22)(F value is 0.291, P > 0.05).(3) In hepatitis B cirrhosis patients blood, group A, group B, group C platelet PAgT (17.37 ± 5.85, 27.14 ± 4.57, 17.14 ± 7.93) was significantly lower than the normal control group (37.26 ± 8.75), the difference was statistically significant (P < 0.05); group A and group C PAgT was declined significantly compared with group B (P < 0.05). (4) Serum concentration of PEDF (50.87 ± 5.70, 44.11 ± 5.28, 49.52 ± 5.70) in hepatitis B cirrhosis patients blood, group A, group B, group C level PEDF level could be divided into group A, group B and group C, compared to normal people, using flow cytometry to detect CD62P, CD63 positive percentage, platelet aggregation analyzer to detect PAgT, and biotin double antibody sandwich enzyme-linked immunosorbenent method to detect the contents of PEDF. Results: (1) In hepatitis B cirrhosis patients blood, group A, group B and group C level PEDF level could be divided into group A, group B and group C CD62P positive percentage (13.25 ± 4.87, 12.26 ± 1.37, 9.81 ± 2.42) was significantly higher than normal control group (4.89 ± 1.80), the difference was statistically significant (P < 0.05); compared with group A, group C positive expression of CD62P was decreased obviously, the difference was statistically significant (P < 0.05).(2) In hepatitis B cirrhosis patients blood, group A, group B and group C CD63 Positive percentage (2.69 ± 1.27, 2.99 ± 1.85, 2.49 ± 1.61) was not different from the normal control group (2.31 ± 1.22)(F value is 0.291, P > 0.05).(3) In hepatitis B cirrhosis patients blood, group A, group B, group C platelet PAgT (17.37 ± 5.85, 27.14 ± 4.57, 17.14 ± 7.93) was significantly lower than the normal control group (37.26 ± 8.75), the difference was statistically significant (P < 0.05); group A and group C PAgT was declined significantly compared with group B (P < 0.05). 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(4) Serum concentration of PEDF (50.87 ± 5.70, 44.11 ± 5.28, 49.52 ± 5.70) in hepatitis B cirrhosis patients was decreased significantly compared with the normal control group (233.40 ± 14.11), difference was statistically significant (P < 0.05); but there was no difference in the comparison between groups in terms of liver cirrhosis (P > 0.05).(5) In hepatitis B cirrhosis patients blood, PEDF expression was negatively related with the CD62P (r value is −0.578, P < 0.05); PEDF expression was no related with CD63 (r value is −0.333, P > 0.05); PEDF expression was positively related with PAgT (r value is 0.505, P < 0.05). Conclusion: In hepatitis B cirrhosis patients blood, protective factors PEDF expression reduced, platelets were abnormally activated, platelet aggregation function dropped; PEDF in hepatitis B cirrhosis patients blood could influence platelet activation and plate-
let aggregation; may partly explain why the cirrhosis of the liver bleeding risk increases.

**Key Word(s):** 1. cirrhosis; 2. PEDF; 3. Platelet aggregation; 4. Platelet activation;

**PR0396**

**Liver Cirrhosis and Complications**

**Study for preventing citrate intoxication during peripheral blood stem cell harvesting**

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**Objective:** To study the best method of calcium supplementation supplementation for preventing citrate intoxication (CI) during peripheral blood stem cell harvesting.  
**Methods:** 58 Patients with hepatopathy were classify by randomization. 26 patients were in control group. 32 patients were in experimental group. The patients in control group take orally 10% calcium according to original method. The patients in experimental group take orally 10% calcium according to new method (adjust time of treat), compare control group CI occurrence rate and occurrence degree with experimental group.  
**Results:** experimental group, CI occurrence rate was 9.3%, control group was 30.7%. patients happen CI that in control group, among them 7 patients response mild, 1 patient response moderate. There were statistics difference of incidence ($\chi^2 = 4.27 P = 0.039, P < 0.05$). There were no difference of occurrence degree.  
**Conclusion:** The new method of calcium supplement can reduce incidence of citrate intoxication. Through the study suggested that picker to preventive use of calcium supplements before collection, Reducing the occurrence of the CI. At the same time continue to observe whether reducing reaction symptoms.

**Key Word(s):** 1. blood stem cell; 2. Collect; 3. citrate intoxication; 4. calcium, Ca;

**PR0397**

**Liver Cirrhosis and Complications**

**Protective role of hydrogen sulfide in the pathogenesis of hepatic fibrosis in rats**

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**Objective:** Hydrogen sulfide (H2S) has been considered as the third neurotransmitter, and affects multiple physiopathological progresses. Some researches report that PI3K/Akt signal pathway is a target of H2S. In present study, we aimed to investigate the effects of H2S donor—sodium hydrosulfide (NaHS) and the PI3K/Akt signal pathway inhibitor—LY294002 respectively on liver tissue morphology and collagen deposition and detect the relationship between H2S and PI3K/Akt signal pathway for better understanding the mechanism of hydrogen sulfide on hepatic fibrosis rats.  
**Methods:** Therefore, the hepatic fibrosis rat models were established by hypodermic injection of carbon tetrachloride mixed with cotton-seed oil at the concentration of 40%, feeding high-fat, high-cholesterol diet and drinking ethanol. The rats were randomly divided into five groups after six weeks: hepatic fibrosis group (group HF), DMSO group (group D), LY294002 group (group L), NaHS group (group S), and LY294002+NaHS group (group LS).  
**Results:** The fibrosis semi-quantitative score of group HF and group D were remarkable higher than group N. The fibrosis semi-quantitative score of group S and group LY were lower than group HF and group D. The fibrosis semi-quantitative score of group LS was lower than group S, but higher than group LY. Immunohistochemical staining and RT-PCR were used to detected type I and III collagen protein expression and mRNA expression. Type I and III collagen protein expression and mRNA expression were increased significantly in group HF and group D than those of group N. Compared with group HF and group L, Type I and III collagen protein expression and mRNA expression were decreased in group S and group LY. Type I and III collagen protein expression and mRNA expression in group LS was less than group S, but more than group LY. Western blot results showed that PI3K and p-Akt in group HF and group D expressed more than group N, but these two proteins in group LY expressed less than group D. These proteins had no obvious difference between group S and group HF. In group LS, PI3K and p-Akt expressed more than group N, but less than group S.  
**Conclusion:** These results suggest that PI3K/Akt signal pathway was closely related to the development of hepatic fibrosis and its inhibitor LY294002 could significantly improve hepatic fibrosis. In addition, we outline that hydrogen sulfide could delay the progress of hepatic fibrosis and had protective effects on hepatic fibrosis by inhibiting morpholgy damage and decreasing type I and III collagen expression, and these protective effects might be related to PI3K/Akt signal pathway.

**Key Word(s):** 1. hepatic fibrosis; 2. hydrogen sulfide; 3. PI3K/Akt pathway;
Liver Cirrhosis and Complications
The role PI3K pathways in exogenous hydrogen sulfide

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Objective: Hepatic fibrosis is the common pathological basis for the development of chronic liver disease, is the inevitable stage of formation of liver cirrhosis, then it is also the effective response when body was injured by exogenous and inflammatory factor caused liver injury. Hepatic stellate cells (HSC) was advitated and proliferation then produce extra cellular matrix (ECM) is the main characteristics of the disease. Our previous studies have shown that in the occurrence and development of liver fibrosis, with the disease progresses, the content of endogenous H2S are gradually reduced, it can significantly delay the onset of liver fibrosis after exogenous give H2S donor. In this experiment, we discuss the influence of cell proliferation, apoptosis that PI3K/Akt signaling pathway to hydrogen sulfide (H2S) post-processing in vitro cultured rat hepatic stellate cells (HSC T6) and the effect of the expression of collagen type I, III, in turn to discuss hydrogen sulfide by the PI3K/Akt signal pathway in the mechanism of action of liver fibrosis.

Methods: cultured HSC T6 in vitro, NaHS (donor of H2S) post-processing and dispossessed by the PI3K/Akt pathway specific blocker that LY294002. Drugs’ intervention after 48 hours, then determined by MTT assay to detect HSC T6 cell proliferation; Using flow cytometry by Annexin V-FITC/PI amphophil cells to detect the HSC apoptosis rate and coloration by Hoechest 33342 to test HSC cell apoptosis; PCR method for quantitative detection of the expression of collagen type I, III mRNA in HSC.

Results: Compared with normal control group, H2S promote cell proliferation is obviously in S group, NaHS in low concentration 50 μmol·L^{-1} group is the most significant difference (P < 0.05), but the effect on cell apoptosis was not significant (P > 0.05), the expression of collagen type I and III mRNA were reduced. LY294002 could restrain HSC cell proliferation, and induced HSC T6 cell apoptosis, the expression of collagen type I, III mRNA significantly reduce.

Conclusion: (1) Low concentrations of H2S can promote the proliferation of rat hepatic stellate cells through the PI3K/Akt signaling pathway, and there is no significant effect on the apoptosis of hepatic stellate cells. (2) LY294002 can significantly induce the cell apoptosis in rat hepatic stellate cells, and inhibits the proliferation of hepatic stellate cells, it also can significantly induce the apoptosis of hepatic stellate cell by the synergism with H2S. (3) H2S can induce the apoptosis of rat hepatic stellate cells by blocking PI3K/Akt signaling pathway, and decrease the expression of collagen type I, collagen type III mRNA in hepatic stellate cells, it plays a role in anti liver fibrosis.

Key Word(s): 1. H2S; 2. liver fibrosis; 3. proliferation; 4. PI3K/Akt;

The expression of collagen type I and collagen type III mRNA in HSC-T6 treated by H2S and LY294002

| Group       | Collagen Type I mRNA | Collagen Type III mRNA |
|-------------|----------------------|------------------------|
| 1.LY294002  | 96bp                 | 182bp                  |
| 2.group LYS | 96bp                 | 182bp                  |
| 3.group D   | 96bp                 | 182bp                  |
| 4.NaHS      | 96bp                 | 182bp                  |

Note: 1.LY294002 50 μmol·L^{-1}; 2.group LYS; 3.group D; 4.NaHS 50 μmol·L^{-1}; 3.group N
PR0399
Liver Cirrhosis and Complications
The history of portal hypertensive gastropathy and influence of esophageal variceal ligation
Presenting Author: MAOZHEN LI
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Objective: To observe the history and likelihood of bleeding from portal hypertensive gastropathy (PHG) in cirrhotic patients and influence of esophageal variceal ligation. Methods: A total of 182 cirrhotic variceal bleeders who had achieved ligation in recent years were studied. PHG was graded as mild or severe and according to whether present before or after ligation grouped as group A or group B. All patients regularly followed-up to see if the PHG was transitory, persistent, or progressive. Bleeding from PHG was evaluated with endoscopy. Results: 33 patients in group A (N = 182) was complicated with PHG before ligation therapy. Occurrence of PHG in the procedure of ligation therapy or after ligation was found in 28 patients without PHG before ligation in group B (N = 149). The percentage of severe PHG in group B was not significant lower than that in group A (10.7% vs 18.2%; p = 0.384). The percentage of persistent PHG in group B was significant lower than that in group A (50% vs 75.8%; p = 0.009). The percentage of transient PHG in group B was significant higher than that in group A (42.9% vs 9.1%; p = 0.009). Severe PHG was not exacerbated after ligation. The percentage of bleeding from PHG in group B was not significant lower than that in group A (7.1% vs 15.2%; p = 0.328). Conclusion: Most of PHG after ligation was transient and persistent, which was not very severe. Severe PHG was not exacerbated after ligation.
Key Word(s): 1. esophageal varices; 2. ligation; 3. PHG;

PR0400
Liver Cirrhosis and Complications
Rare cause of non-cirrhotic portal hypertension
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Objective: Background: Portal hypertension (PHT) is characterized as obstruction of portal vein flow is due to prehepatic, posthepatic or intrahepatic etiologies, and an increase in portal pressure (>10 mm Hg). Increasing of portal pressure is caused by prehepatic (portal vein or spleen vein), posthepatic (hepatic vein or inferior vena cava) or intrahepatic (hepatic sinusoid, before; after). Clinical manifestation of portal hypertension are upper gastrointestinal hemorrhage, splenomegaly, ascites and hepatic encephalopathy, etc; 80% of PHT is cirrhosis. Non-cirrhotic portal hypertension only 5–10%. Need to identify Non-cirrhotic portal hypertension, find etiologies, and take a treatment in time. Purpose: Probe role of biliary system cancer in portal hypertension development, and mechanism. Methods: Review 2 cases of PHT caused by biliary system cancer. Results: 2 cases of portal hypertension happened 0.5 year / 1 year after the operation for extrahepatic cholangiocarcinoma / gallbladder neck cancer respectively. Manifestation are Esophageal variceal bleeding, or together with gastric varices; ascites; non-splenomegaly; cirrhosis is not supported by biochemical test & iconography; high possibility of tumour recurrence is found. Patients died in 2 cases caused by tumor recurrence. To discuss possible mechanism: 1. tumor recurrence constricts portal vein; 2. Part of tissue structure changes after operation impacts portal vein flow; 3. portal vein cancer embolus; 4. Portal pressure increases by obstructive jaundice. Conclusion: Biliary system cancer (gallbladder cancer, cholangiocarcinoma) is one of the rare reasons of non-cirrhotic portal hypertension. portal hypertension after operation probably indicates the tumor recurrence. Take emergency endoscopy as far as possible if find upper gastrointestinal hemorrhage on this kind of patients, and take corresponding endoscopic therapy to extend their life.
Key Word(s): 1. portal hypertension; 2. cholangiocarcinoma; 3. gallbladder cancer;

PR0401
Liver Cirrhosis and Complications
The follows of the covered stents Implanted by TIPS to portal Hypertension
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Objective: To Explore the clinical efficacy and complications of the transjugular intrahepatic portosystemic shunt (Transjugular Intrahepatic Portosystemic Shunt, TIPS) in the treatment of portal hypertension. Methods: A total of 21 Patients with Portal hypertension from the First Affiliated Hospital of Nanchang University were executed TIPS with Covered Stent in recent 2 years and were followed up for 4 to 14 months. The portal venous pressure petersysmic pressure gradients, alimentary tract hemorrhage, stent reocclusion, hepatic encephalopathy, blood coagulation, hepatic function, blood ammonia, iconography and endoscopy results were monitored before and after Tips treatment. Results: In all of the 21 Patients,18 cases were successfully completed the operation. The rate of hemostasis in 24 hours was 1 00%. HVPG dropped from (41.9 ± 15.9)cm H2O to (25.5 ± 13.5)cm H2O, there was significant statistical significance. During in the 4 months–14 months of follow-up, The relapse rate of rehaemorrhagia was 26.7% (4/15), and occurred in 1, 2, 6, 8 month after the operation. Esophageal varices of 11 cases release, another 6 cases did not change significantly. Stent reocclusion rate 16.7% (3/18), and the total of 3 cases rehaemorrhagia. The incidence rate of hepatic encephalopathy was16.7% (3/18), symptoms of every cases disappear after symptomatic treatment. Refractory ascites of all cases remission obviously and even disappear. The difference of hepatic function and platelet between before and after operation was not significant statistically (P > 0.05). Conclusion: The curative effect of TIPS in treating portal hypertension caused by liver cirrhosis is exact, and is worthy of clinical application.
Key Word(s): 1. TIPS; 2. Portal HyPenension; 3. Liver cirrhosis;

PR0402
Liver Cirrhosis and Complications
Recombinant adenovirus Ad-hMMP-1 transfect bone marrow mesenchymal stem cells of rat in vitro
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Objective: Liver fibrosis is the pathological basis of chronic liver disease and it must lead to the cirrhosis. There is still no effects of drugs to reverse the liver fibrosis. In recent years numerous studies have confirmed that bone marrow-derived mesenchymal stem cells in the the body and outward have the potential of differentiation to liver cell, it is expected to repair or reverse the process of liver fibrosis. The genetically modified stem cells maintain the directly differentiation characteristics, while corresponding factor can improve the efficacy and is compensate for the lack of simple MSCs transplantation therapy. Matrix metalloproteinases in the liver was
expressed and secreted by hepatic stellate cells (HSC) and Kupffer cell. It was zinc – calcium-dependent family of endogenous proteolytic enzymes involved in extracellular matrix degradation. It was the only enzyme that breaks down collagen fiber and almost breaks down the ECM components outside the polysaccharide, it plays an important role in physiological and pathological processes. MMP-1 was also known as fibroblast cell type, it was a major human interstitial collagenase that can degrade type I collagen-based extracellular matrix constituents (ECM), so as to reverse the process of liver fibrosis.

Methods:
1. The bone marrow mesenchymal stem cells of rat were isolated and cultured by plastic adherence. Being proficient in the cell culture technology, observed cell morphology and growth characteristics daily, changed solution and passed on time, cells of good growth state were identified in the immune phenotype of stem cells using flow cytometry, the immune phenotype were including CD45, CD90, CD105, CD14, CD34 and CD79a.
2. Recombinant adenoviral vector Ad-hMMP1-eGFP building, identification and packaging, the hMMP-1 gene was amplified by PCR reaction, building the expression cloning of pAd-hMMP-1-eGFP by the Gateway technology. The linear pAd-hMMP-1-eGFP cut down by endonuclease Pac I transfected into HEK293A cells to packaging the Ad-hMMP-1-eGFP. The transfected situation was observed under a fluorescence microscope, the target protein expression was detected by Western-Blot assay.
3. The BMSCs were transfected by recombinant adenovirus Ad-hMMP-1 carrying green fluorescent marker in vitro, observing the GFP expression by fluorescence microscopy and detecting the transfection efficiency by flow cytometry, determining the optimal multiplicity of infection (multiplicity of infection, MOI). The cell proliferation after transfection in vitro was detected by MTT assay. The gene and intracellular protein of hMMP-1 was detected by RT-PCR and Western blot, the Elisa assay supernatant protein expression, the hMMP-1 activity was measured by fluorescent quantification kit.

Results:
1. The bone marrow mesenchymal stem cells of rat in primary culture grew well, and there was a large number of cells, growing adherent, forming a single, being fusiform, arraying in polarity and growing whorled. It showed the 3rd generation BMSCs highly express the specific marker of CD90 (99.6%) and CD105 (99.8%), don’t express the surface marker of hematopoietic stem cell of CD45 (0.1%), CD14 (0.1%), CD34 (0.3%), CD79a (0.1%) by the flow cytometry identification results.
2. It was confirmed that the entry vector and the destination vector both contain hMMP-1 target gene by restriction analysis and sequencing. The green fluorescent protein was observed in the 293A cells transfected by the Ad-hMMP-1-eGFP 4 days later. The fluorescence intensity is the highest 10 days later, the virus was collected 12 days later, the viral titer was determined as 4.84 × 1010PFU/ml, the target protein was efficient expression via Western-Blot assay.
3. The green fluorescent was observed in BMSCs transfected by recombinant adenovirus at 24 hours after transfection; the fluorescence intensity was highest at 72 hours; and the optimum MOI was 200. The cells of 3 groups entered the logarithmic growth phase on the 3 days and reached plateau phase on the 7 days by MTT assay; no significant difference was found in the cell proliferation rate among 3 groups (P > 0.05). RT-PCR, Western blot, and ELISA assay showed high expressions of the hMMP-1 gene and protein in group C, but no expressions in groups A and B. The MMP-1 activity was 1.24 nmol/(mg·min) in group C, but MMP-1 activity was not detectable in groups A and B.

Conclusion:
1. The bone marrow mesenchymal stem cells of rat can be isolated and culture by plastic adherence, the purity of cells is high, the cells growing in good condition, can be used for subsequent cell transfection studies;
2. The recombinant adenovirus vector containing human matrix metalloproteinase -1 (hMMP-1) was successfully constructed by using the Gateway technology, it was more efficient and specificity comparing with the traditional building methods;
3. The exogenous gene hMMP-1 was successfully transfected into rat BMSCs and highly expressed via recombinant adenovirus, and there was no significant effect on cell proliferation, laying the experimental foundation for the treatment of liver fibrosis joint hMMP-1 gene transplantation.

In summary, the recombinant adenovirus Ad-hMMP-1 can be successfully transfected into rat of BMSCs in vitro, the target gene and the target protein in transfected cells were expression efficiently and sustainedly. The cells are the good seed cells to treating of hepatic fibrosis in rats in next step.

Key Word(s): 1. transfect; 2. MMP-1; 3. BMSCs; 4. adenovirus;

PR0403
Liver Cirrhosis and Complications
Computerized number connection tests is a short method to screen for minimal hepatic encephalopathy

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Objective: Minimal Hepatic Encephalopathy (MHE) is widely prevalent in patients with cirrhosis. Considering the limitations of traditional paper-and-pencil psychometric tests and widespread use of computer, computerized number connection tests (NCTs) may be a useful method for diagnosis of MHE. Methods: The Application of computerized NCTs (NCT-A and NCT-B) was written by Visual Basic 6.0, tablet personal computer was used as the operating platform. Cirrhosis subjects of overt HE were excluded by West Haven criteria and a detailed neurological examination. 25 cirrhotics were further tested for MHE. 118 age-matched healthy volunteers were enrolled for the control group. The computerized NCTs and paper-and-pencil psychometric tests and widespread use of computer, computerized number connection tests and NCTs were administered to cirrhotics and controls. Patients were classified as having MHE when the PHES score was less than −4 points. ROC analysis was performed to diagnosis MHE in cirrhics. Results: In the group of cirrhosis, 9 patients were classified as MHE, 16 as unimpaired. Age, education years did not differ between the MHE and the non MHE patient groups (P > 0.05). Score of computerized NCTs was calculated based upon the number of standard deviations below the age-adjusted mean. MHE by computerized NCTs was diagnosed with a total score less than −6 points. A high correlation was observed between computerized NCTs score and PHES score (r = 0.855, p < 0.01). Computerized NCTs was able to diagnose MHE with 88.9% sensitivity and 87.5% specificity (Area under the curve = 0.958, p < 0.01). Conclusion: Computerized Number Connection Tests is established and preliminarily confirmed to be a valid and reliable method for screening of MHE.

Key Word(s): 1. liver cirrhosis; 2. MHE; 3. NCT;
**PR0404**
Liver Cirrhosis and Complications
Salidroside and cholestatic serum induce differentiation of bone mesenchymal stem cells into hepatocytes In-vitro
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**Objective:** To explore the possibility and validity of differentiation of rat bone mesenchymal stem cells (BMSCs) into hepatocytes with a culture system containing salidroside and cholestatic serum in vitro.

**Methods:** BMSCs were isolated by plastic adherence from whole bone marrow of health SD rat at the age of 2–3 weeks, identifying stem cell surface markers of CD45, CD14, CD34, CD79a, CD90, CD105 by the flow assay; cholestatic serum were prepared by common bile duct ligation from 10 health SD rats at the age of 10–13 weeks. the 3rd – passage BMSCs were divided into three groups for vitro induction by the different culture systems: Group A: basic growth medium plus 5% cholestatic serum; Group B: basic growth medium plus 5% cholestatic serum plus 30UM salidroside; Group C: basic growth medium plus 5% cholestatic serum plus 20 ug/L Hepatocyte Growth Factor (HGF); observing changes of cell morphology during culture time in each group-induced, RT-PCR assay to detect mRNA expression of alpha-fetoprotein (AFP) and albumin (ALB); Western-Blot assay to detect protein expression levels of AFP and ALB.

**Results:** The BMSCs highly express CD90, CD105, did not express CD45, CD14, CD34, CD79a, the cells of three groups appear polygonal and binucleate cells in the procedure of induction; The mRNA and protein expression of AFP and ALB emerged in the three groups on the 7th day; in the same period the lowest expression ratio was in group A (p < 0.05), while there was no significant difference between group B and group C (p > 0.05).

**Conclusion:** Salidroside and cholestatic serum can effectively induce BMSCs differentiated into hepatocytes.

**Key Word(s):** 1. cholestatic serum; 2. salidroside; 3. induction; 4. HGF;

**PR0405**
Liver Cirrhosis and Complications
Clinical analysis of Peliosis hepatis in chinese : meta-analysis of 27 cases
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**Objective:** To investigate the clinical characteristics of Chinese patients with Peliosis Hepatis. Relevent data of Chinese Peliosis Hepatis Patients were retrieved from PubMed and CNKI database and a meta-analysis was conducted

**Results:** A total of 27 Peliosis hepatic cases had been reported by Chinese hospitals with obscure causes, mainly manifested as abdominal distention and edema, accompanied with transudative ascites and maybe Hemorrhagic ascesis. Liver rupture was reported in 4 patients and Liver dysfunction was in 44.44% patients. Enhanced CT scan demonstrate the lesion is enhanced unevenly like a map, pathomorphology confirmed all cases as Peliosis Hepatis.

**Conclusion:** Peliosis Hepatis is rare, clinical manifestation and auxiliary examination are not specific and its diagnosis mainly depends on the pathomorphology.

**Key Word(s):** 1. Peliosis Hepatis; 2. liver; 3. pathology;

**PR0406**
Liver Cirrhosis and Complications
Increasing peripheral blood monocytois correlates with advancing liver fibrosis stage in hepatitis C
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**Objective:** Monocytes and monocyte derived dendritic cells (DCs) have been shown to translocate to injured liver in response to inflammation/ injury. Profound liver mononuclear cell infiltration/expansion has also been demonstrated in patients with hepatitis B. Furthermore, studies have demonstrated expansion of the CD14(+) CD16(+) monoocyte subset in patients with chronic liver disease relative to healthy controls. An association between peripheral blood monocytoisis and advancing liver fibrosis stage has not been reported to date. We aimed to demonstrate an association between peripheral blood monocyte percentage and liver fibrosis stage in hepatitis C patients.

**Methods:** Utilizing our Clinical Data Repository, we conducted a retrospective analysis of hepatitis C patients who had undergone a liver biopsy between 2007 and 2011 at the University of Virginia (UVA). All biopsies were read by UVA pathologists. Only those patients with a fibrosis stage documented on histopathology were included. Patients were also required to have had a complete blood count with differential drawn prior to undergoing biopsy to document monocyte percentage. A total of 325 patients were included in the study (29 stage 0; 81 stage 1; 94 stage 2; 88 stage 3; 33 stage 4). Differences in mean peripheral blood monocyte percentage between patients with variable liver fibrosis stages were assessed by one-way anova.

**Results:** Mean monocyte percentage was 7.2 +/- 0.62 for stage 0 liver fibrosis, 8.5 +/- 0.40 for stage 1 liver fibrosis, 10.6 +/- 0.34 in patients with stage 2 liver fibrosis, 12.4 +/- 0.44 in patients with stage 3 liver fibrosis, and 16.9 +/- 1.6 in patients with stage 4 liver fibrosis. The differences in mean peripheral blood monocyte percentage between groups was statistically significant (p < 0.001) and found to increase with incremental liver fibrosis stage.

**Conclusion:** These data demonstrate that peripheral blood monocytoisis appears to correlate with advancing liver fibrosis stage in patients with hepatitis C. In the pathogenesis of human liver disease, a simple peripheral blood monocyte percentage may represent a minimally-invasive biomarker that can be used to assess liver fibrosis stage.

**Key Word(s):** 1. Liver; 2. Fibrosis; 3. Monocytes; 4. Hepatitis C;

**PR0407**
Liver Cirrhosis and Complications
Influence of Olmesartan on ACE2-Ang(1–7)-Mas receptor axis in hepatic fibrosis in rats
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**Objective:** To observe the expression of hepatic angiotensin-converting-enzyme 2 (ACE2)/angiotensin(1–7) [Ang(1–7)]/Mas receptor influenced by angiotensin II type 1 receptor blocker (ARB) Olmesartan on hepatic fibrosis in rats, so as to discuss the antifibrosis mechanism of Olmesartan.

**Methods:** A total of 42 male wistar rats were randomly divided into three groups: the control group (n = 12), the model group (n = 15), and the Olmesartan group (n = 15). With the exception of those in the control group, all rats were given subcutaneous injections of 40 % CCH once every
three days, 5 mg/kg for the first dose and 3 mg/kg for each subsequent dose. Rats in the control group were given subcutaneous injections of oil in the same dosage, and from the first day, rats in Olmesartan group were given Olmesartan (4 mg/kg/d) by intragastric administration. All rats were killed after 60 days. Histopathological study of the liver tissues was done with hematoxylin-eosin (HE) and Masson staining. Ang(1–7) levels were determined by enzyme-linked immunosorbent assay (ELISA). The expression of ACE2 and Mas receptor mRNA were evaluated by Real-time PCR. The expression of ACE2 and Mas receptor protein were evaluated by Western blotting. Results: (1) Pathological results: compared with the control group, the degree of hepatic fibrosis was increasing in the model group and the Olmesartan group, and in the Olmesartan group the degree of hepatic fibrosis was lower than in the model group. (2) ELISA results: the Ang(1–7) level of the model group and the Olmesartan group increased compared with the control group (P < 0.05); and the Ang(1–7) level of the Olmesartan group increased compared with the model group (P < 0.05). (3) Real-time PCR results: ACE and Mas receptor mRNA expression in the model group and the Olmesartan group increased compared with the control group (P < 0.05); and in the Olmesartan group ACE2 and Mas receptor mRNA expression increased compared with the model group (P < 0.05). (4) Western blotting results: ACE2 and Mas receptor protein expression of the model group and the Olmesartan group increased compared with the control group (P < 0.05); and in the Olmesartan group ACE2 and Mas receptor protein expression increased compared with the model group (P < 0.05). Conclusion: Olmesartan attenuated the degree of hepatic fibrosis, not only by inhibiting the effect of Ang II/AT1R, but also by activating the ACE2-Ang(1–7)-Mas receptor axis.

Key Words: 1. Hepatic fibrosis; 2. ACE2; 3. Angiotensin(1–7); 4. Receptor Mas;

PR0408
Liver Cirrhosis and Complications
Protective role of hydrogen sulfide in the pathogenesis of hepatic fibrosis in rats
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Objective: Hydrogen sulfide (H2S) has been considered as the third gasotransmitter, and affects multiple physiopathological progresses. Some researches report that PI3K/Akt signal pathway is a target of H2S. In present study, we aimed to investigate the effects of H2S donor–sodium hydrosulfide (NaHS) and the PI3K/Akt signal pathway inhibitor–LY294002 respectively on liver tissue morphology and collagen deposition and detect the relationship between H2S and PI3K/Akt signal pathway for better understanding the mechanism of hydrogen sulfide on hepatic fibrosis rats. Methods: Therefore, the hepatic fibrosis rat models were established by hypodermic injection of carbon tetrachloride mixed with cottonseed oil at the concentration of 40%, feeding high-fat, high-cholesterol diet and drinking ethanol. The rats were randomly divided into five groups after six weeks: hepatic fibrosis group (group HF), DMSO group (group D), LY294002 group (group L), NaHS group (group S), and LY294002+NaHS group (group LS), and the rats in group HF, group D, group LY and group S were intraperitoneally infused with physiologic saline, 2% DMSO solution, LY294002 solution (0.3 mg/kg•d), and NaHS solution (56 μmol/kg•d) separately for 12 times, at the same time, the rats in group LS were intraperitoneally infused with LY294002 solution (0.3 mg/kg•d) and NaHS solution (56 μmol/kg•d) simultaneously for 12 times. All rat livers were collected after all above treatments. Hepatic fibrosis pathology stages were determined by HE staining. The depositions of collagen fiber were observed by Masson staining. The expressions of type I and III collagen were tested by RT-PCR and immunohistochemistry. The expressions of PI3K and p-Akt were tested by western blot. HE staining was used to determine hepatic fibrosis stages. Results: Compared with group N, the stage of hepatic fibrosis raised apparently in group HF and group D. Compared with group HF and group LY and group D, the stage of hepatic fibrosis in group S and group LY were decreased. But there was no obvious difference among group LY, group S and group LS. Masson staining was used to calculate the score according to fibrosis semi-quantitative scoring system in liver to observe the deposition of collagen fiber. The fibrosis semi-quantitative score of group HF and group D were remarkable higher than group N. The fibrosis semi-quantitative score of group S and group LY were lower than group HF and group D. The fibrosis semi-quantitative score of group LS was lower than group S, but higher than group LY. Immunohistochemical staining and RT-PCR were used to detected type I and III collagen protein expression and mRNA expression. Type I and III collagen protein expression and mRNA expression were increased significantly in group HF and group D than those of group N. Compared with group HF and group D, Type I and III collagen protein expression and mRNA expression were decreased in group S and group LY. Type I and III collagen protein expression and mRNA expression in group LS was less than group S, but more than group LY. Western blot results showed that PI3K and p-Akt in group HF and group D expressed more than group N, but these two proteins in group LY expressed less than group D. These proteins had no obvious difference between group S and group HF. In group LS, PI3K and p-Akt expressed more than group LY, but less than group S. Conclusion: These results suggest that PI3K/Akt signal pathway was closely related to the development of hepatic fibrosis and its inhibitor LY294002 could significantly improve hepatic fibrosis. In addition, we outline that hydrogen sulfide could delay the progress of hepatic fibrosis and had protective effects on hepatic fibrosis by inhibiting morphology damage and decreasing type I and III collagen expression, and these protective effects might be related to PI3K/Akt signal pathway. Key Word(s): 1. hepatic fibrosis; 2. hydrogen sulfide; 3. PI3K/Akt pathway;
Liver Cirrhosis and Complications

The role PI3K pathways in exogenous hydrogen sulfide

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Objective: Hepatic fibrosis is the common pathological basis for the development of chronic liver disease, is the inevitable stage of formation of liver cirrhosis, then it is also the effective response when body was injured by exogenous and inflammatory factor caused liver injury. Hepatic stellate cells (HSC) was advitated and proliferation then produce extra cellular matrix (ECM) is the main characteristics of the disease. Our previous studies have shown that in the occurrence and development of liver fibrosis, with the disease progresses, the content of endogenous H2S are gradually reduced, it can significantly delay the onset of liver fibrosis after exogenous give H2S donor. In this experiment, we discuss the influence of cell proliferation, apoptosis that PI3K/Akt signaling pathway to hydrogen sulfide (H2S) post-processing in vitro cultured rat hepatic stellate cells (HSC T6) and the effect of the expression of collagen type I, III, in turn to discuss hydrogen sulfide by the PI3K/Akt signal pathway in the mechanism of action of liver fibrosis.

Methods: cultured HSC T6 in vitro, NaHS (donor of H2S) post-processing and dispossessed by the PI3K/Akt pathway specific blocker that LY294002. Drugs intervention after 48 hours, then determined by MTT assay to detect HSC T6 cell proliferation; Using flow cytometry by Annexin V-FITC/PI amphophil cells to detect the HSC apoptosis rate and coloration by Hoechest 33342 to test HSC cell apoptosis; PCR method for quantitative detection of the expression of collagen type I, III mRNA in HSC.

Results: Compared with normal control group, H2S promote cell proliferation is obviously in S group, NaHS in low concentration 50 μmol/L-1 group is the most significant difference (P < 0.05), but the effect on cell apoptosis was not significant (P > 0.05), the expression of collagen type I and III mRNA were reduced. LY294002 could restrain HSC cell proliferation, and induced HSC T6 cell apoptosis, the expression of collagen type I, III mRNA significantly reduce. LY294002 could restrain HSC cell proliferation, and induced HSC T6 cell apoptosis, the expression of collagen type I, III mRNA significantly reduce. The effect of AngII on HSC-T6 apoptosis:detected by Hoechst 33342 stain ×200

Conclusion: (1) Low concentrations of H2S can promote the proliferation of rat hepatic stellate cells through the PI3K/Akt signaling pathway, and there is no significant effect on the apoptosis of hepatic stellate cells. (2) LY294002 can significantly induce the cell apoptosis in rat hepatic stellate cells, and inhibits the proliferation of hepatic stellate cells, it also can significantly induce the apoptosis of hepatic stellate cell by the synergism with H2S. (3) H2S can induce the apoptosis of rat hepatic stellate cells by blocking PI3K/Akt signaling pathway, and decrease the expression of collagen type I, collagen type III mRNA in hepatic stellate cells, it plays a role in anti liver fibrosis.

Key Word(s): 1. H2S, 2. liver fibrosis; 3. proliferation; 4. PI3K/Akt;
PR0410
Liver Cirrhosis and Complications
The correlation between serum-ascites total protein gradient (SATPG) and liver size parameters
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Objective: To investigate the correlation between serum-ascites total protein gradient (SATPG) and liver size. Methods: 662 patients with ascites were examined with color doppler ultrasonography. SATPG was examined with abdominal paracentesis, which was the difference of total protein between serum and ascites. Pearson correlation analysis was used to assess the correlation between SATPG and the up-down length of left lobe of liver, the front-back length of left lobe of liver, the thickness of right lobe of liver, portal vein diameter, and portal vein blood flow velocity.

Results: There were no correlations between the levels of SATPG and the up-down length of left lobe of liver, the front-back length of left lobe of liver (r = -0.058, P = 0.161; r = -0.048, P = 0.249). However, the correlation coefficients between the levels of SATPG and the thickness of right lobe of liver, portal vein diameter, and portal vein blood flow velocity were -0.108,0.103 and -0.164, all had statistical significance (P < 0.05).

Conclusion: SATPG can be a good index to reflect the degree of portal pressure.

Key Word(s): 1. Ascites; 2. Portal-hypertension; 3. Total Protein; 4. Liver fibrosis; 5. TGF-beta1; 6. Autophagy; 7. Apoptosis.

PR0411
Liver Cirrhosis and Complications
TGF-β1 induce autophagy against apoptosis in HSC-T6
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Objective: Autophagy is a metabolic process where cellular components are degraded through the lysosome machinery and this plays an important role in fibrogenesis. TGFβ1 is the most potent fibrogenic cytokine in liver fibrosis. However, it is not clear that the role of autophagy by TGFβ1 regulated in liver fibrosis. In the present study, we investigated the role of autophagy mediated by TGFβ1 in hepatic stellate cell (HSC) proliferation and apoptosis. Methods: Rat HSC cell line (HSC-T6) was incubated with or without TGFβ1. The effects of autophagy were inhibited by bafilomycin A1 and siRNA. HSC-T6 transfection was finished with pLVX-AcGFP- N1-rLC3B encoding plasmid. MTS assay and flow cytometry were applied to detect the proliferation and apoptosis of HSC-T6. Results: Compared with serum deprivation, significant increased proliferation and decreased apoptosis of HSC-T6 were observed among HSCs treated with TGFβ1. Conversely, increased apoptosis and decreased proliferation was detected when treated with bafilomycin A1 and siRNA; Microtubule-associated protein 1 light chain (MAP1LC3), a autophagy marker, increased obviously in protein and mRNA expression, GFP-LC3 dots increased when the HSC-T6 was treated with TGFβ1. Conclusion: TGFβ1 can rescue HSC-T6 from serum deprivation and reduce HSC-T6 apoptosis via the induction of autophagy. This study indicates the possible role of autophagy induced by TGFβ1 in the pathological process of liver fibrosis.

Key Word(s): 1. liver fibrosis; 2. TGF-beta1; 3. autophagy; 4. apoptosis; 5. TGF-beta1; 6. Autophagy; 7. Apoptosis.

PR0412
Liver Cirrhosis and Complications
Liver decellularized bioscaffold improves proliferation and function of primary hepatocytes In vitro
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Objective: Hepatocyte transplantation has been proposed as an alternative to liver transplantation to support hepatic insufficiency. However, the primary hepatocytes in vitro culture rapidly lose their hepatocyte-specific functions within several days. Thus, it is necessary to provide an engineered microenvironment to maintain the proliferation and function of primary hepatocytes. This work aims to test whether the novel rat whole liver decellularized bioscaffold (LDB) provides an effective and efficient platform for hepatocyte culture. Methods: Equal amount of primary hepatocytes isolated from normal adult SD rats were seeded into cell culture dish (Group A), collagen-coated poly (lactico-glycolic acid) (C-PLAGA) 3D scaffolds (Group B), and rat LDBs (Group C) respectively in the hepatocyte culture medium for 2 weeks. The changes in cellular morphology, proliferative capacity, and hepatocyte-specific function were observed and analyzed. Results: In vitro culture, the HE staining and scanning electron microscope demonstrated that the most amount of cells were adhered to the LDB, which was consistent with the result of DNA quantification, the dsDNA contents of the cells in Group C were significantly more than other two groups (P < 0.05). The TUNEL staining also indicated that less apoptotic cells were observed in Group C than the other groups. Moreover, the hepatocytes cultured in LDB showed higher levels of albumin expression and secretion (P < 0.05), urea production (P < 0.05), and indocyanine green (ICG) uptake. Conclusion: We conclude that LDB represents a favorable platform for in vitro culture of primary hepatocytes and support research into the application of DLB as a prospective bioscaffold for liver tissue engineering.

Key Word(s): 1. Hepatocyte; 2. Cell Culture; 3. Biological Scaffold; 4. Decellularization; 5. Liver decellularized bioscaffold; 6. Primary hepatocytes; 7. In vitro culture; 8. TGF-beta1; 9. Autophagy; 10. Apoptosis.
Liver Cirrhosis and Complications
Transjugular intrahepatic portosystemic shunt for the refractory ascites: retrospective korean multicenter data

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Objective: Refractory ascites indicates advanced chronic liver disease and represents a therapeutic challenge. While liver transplantation is the ultimate treatment, for the relief of ascites transjugular intrahepatic portosystemic shunt (TIPS) are well established. We report our experience with TIPS in Korea based on a multicenter retrospective study.

Methods: The data of 59 patients who underwent TIPS for refractory ascites with liver cirrhosis were collected from 8 referral hospital centers in south korea from 2000 to 2012. Effect on ascites, long-term patency, development of encephalopathy, and survivial and complication rates were evaluated. Results: Complication of the procedure is bleeding (2 patients), hypotension of the unknown origin (1 patient), aggravated heart failure (1 patient). Stent dysfunction happened 5 patients due to stent stenosis (4 patients), stent thrombosis (1 patient) during follow up. Mean follow up period was 326 days. During follow up, 50 (90.9%) patients died and only 2 patients had liver transplantation. 5 (9.1%) patients had shunt revision due to stent dysfunction. The probability of survival without liver transplantation was 26.5% at 1 year. 1-month mortality was 29.1%. The response was assessed in patients who were alive, without transplantation, at each time point. Either complete or partial response of the ascites was obtained in 68.6%, 75.0 %, 76.4% and 69.2% at 1, 3, 6, 12 months, respectively. Mortality was 29.1%, 48.3%, 58.2% and 70.9% at 1, 3, 6, 12 months, respectively. In 15 patients (30%), a new episode of encephalopathy developed or aggravated. Serum creatinine level (P < .05) was independent risk factors of newly developed or aggravated encephalopathy in the patients survive more than 1month post-TIPS. Serum creatinine level (p = 0.01) was independently related to mortality. Conclusion: TIPS placement effectively controlled ascites and is a reliable option or bridge therapy prior to liver transplantation for the management of refractory ascites in patients with liver cirrhosis.

Key Word(s): 1. TIPS; 2. refractory ascites; 3. cirrhosis;

Liver Cirrhosis and Complications
Differential gene expression networks regulated by TLR4 signaling in hepatic stellate cells

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Objective: Toll-like receptor 4 (TLR4) signaling contributes to the activation of hepatic stellate cells (HSC), the major fibrogenic cell type in injured liver, by promoting an inflammatory phenotype, fibrogenesis and cell survival. In our previous study immortalized mouse stellate cell lines that were TLR4 wild type (JS1) and TLR4 knockout (-/-) (JS2) were generated (Guo, et al, Hepatology, 2008). The aim of the present study was to investigate the differential gene expression in these cell lines with or without the stimulation by lipopolysaccharide (LPS), the exogenous TLR4 ligand, and high mobility group box 1 (HMGB1), a potential endogenous TLR4 ligand and damage pattern molecule that signals the presence of necrosis (Zhang, et al, Lif Sci, 2012). 

Methods: JS1 and JS2 cells that were sub-cultured to 80% confluence were stimulated with normal saline vehicle (control), or 100 ng/ml LPS, or 100 ng/ml HMGB1 for 24 hours. The cells were collected with Trizol reagent for RNA extraction. The RNA extracts from the control, LPS and HMGB1 groups were hybridized on a 4644 K Agilent whole mouse genome oligo microarray for the gene expression analysis. Functional analysis of the microarray data was performed using KEGG analyses. Gene interaction network and co-expression network were built on the base of ontology and pathway analysis to which the differentially expressed genes attributed. Selected genes were validated by real-time polymerase chain reaction (RT-PCR), ELISA and/or Western Blot.

Results: The gene expression profiles are different between JS1 and JS2 cells under basal condition and after stimulated with TLR4 ligands. The differentially expressed genes encode extracellular matrix and matrix remodeling proteins, growth factors and receptors, chemokines and receptors, inflammatory and immune related proteins, as well as transcriptional factors and important signaling molecules. In JS1 cells LPS upregulates genes that belong to the signaling pathways of Toll-like receptors, neurotrophic factor, immune, the spliceosome and or Western Blot.

Conclusion: There were complex gene expression alterations subsequent to the lack of TLR4 in HSCs. These included key inflammatory, fibrogenic, growth and metabolism related signals in HSCs. These findings emphasizes the complex pathways downstream of TLR4 in this important fibrogenic cell type and the significant consequence of TLR4 signaling on HSC biology and function.

Key Word(s): 1. stellate cells; 2. Toll like receptor 4; 3. ligands; 4. gene microarray;
**PR0415**

Liver Cirrhosis and Complications
Changes of immune function in cirrhotic patients with spontaneous bacterial peritonitis

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**Objective:** To identify change of immune function in patients with cirrhosis and ascites spontaneous bacterial peritonitis in cirrhotic patients with ascites by their peripheral blood CD4+ T cell count. **Methods:** 176 patients with cirrhosis and ascites, categorized them according to EASL clinical practice guidelines on the management of ascites, spontaneous bacterial peritonitis, and hepatorenal syndrome in cirrhosis, were enrolled in this study in the Jiangxi Yichun People’s Hospital from 2010 to 2012. The peripheral blood CD4+ T cell from 176 patients was counted through using TriTEST reagents following an in-house dual platform protocol and MultiSET and Attractors software using an FACScan. We compared the CD4+ T cell count between patients with and without SBP. **Results:** Among 176 patients, 64 experienced incident SBP. SBP incidence was 36.36%. Patients who developed a first episode of SBP had a lower CD4+ T cell count compared to patients without SBP (321vs.378cells/mm3; P < 0.001). **Conclusion:** The patients with cirrhosis and ascites who have lower CD4+ T cell count were more susceptible to SBP.

**Key Word(s):** 1. SBP; 2. CD4+ T cell count; 3. cirrhosis; 4. ascites;

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**PR0416**

Liver Cirrhosis and Complications
A meta-analysis of portal vein thrombosis in patients with liver cirrhosis

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**Objective:** The aim of this study was to evaluate the etiology, pathogenesis, imaging diagnosis, treatment and prognosis of liver cirrhosis portal vein thrombosis. **Methods:** We searched three medical databases, including CNKI, VIP Information, WANFANG Data. Published literatures on liver cirrhosis portal vein thrombosis from 1994 to 2012 were collected. Retrieval words include “liver cirrhosis”, “portal vein thrombosis”, Chinese is used as the retrieval language. **Results:** Portal vein thrombosis; Liver cirrhosis; Clinical features **Conclusion:** that is all.

**Key Word(s):** 1. thrombosis;

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**PR0417**

Liver Surgery (Including Liver Transplantation)
Focal nodular hyperplasia of the liver in a 5-year-old girl: a case report

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**Objective:** The focal nodular hyperplasia (FNH) of the liver was first described by Edmondson in 1956. This is a common benign tumor accounts for 8% in adults and 2% in children. The pathogenesis is uncertain. FNH is described as lobulated, non-capulated benign hepatic lesion with a central star-like scar. Here, we report focal nodular hyperplasia of the liver in a 5-year-old girl. This is, to our knowledge, the case among the youngest in China. **Methods:** A 5 year old girl was detected incidentally by physical examination. There was no significant medical history and the family history was noncontributory. **Results:** Upon physical examination, the liver edge was palpable 4 cm below the right costal margin. The spleen was not palpable. The liver function and viral serology tests were unremarkable. Ultrasound (US) abdomen as well as Computed tomography (CT) examination revealed a well defined subcapsular hypodense mass in the right lobe of liver, measuring 7.2 x 5.0 cm. Surgical resection was performed without any postoperative complication. A diagnosis of focal nodular hyperplasia was made by the biopsy of the lesion. Histological analysis showing hyperplastic parenchyma with a central fibrous scar, containing a proliferation of small bile ducts, thickened vessels. **Conclusion:** FNH is relatively rare in pediatric population. Classic FNH is characterized by hepatocellular trabeculae forming nodules separated by fibrous septae radiating from a central fibrous scar. At our knowledge, this case of FNH in this child was among the youngest in China.

**Key Word(s):** 1. FNH;

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**PR0418**

Liver Surgery (Including Liver Transplantation)
Elevated blood eosinophil count is a biomarker for predicting late acute rejection after OLT

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**Objective:** Several studies have indicated the value of raised blood eosinophil count in the diagnosis of acute cellular rejection (ACR) after liver transplantation (LT). However, all the cut-off values have been set empirically. Furthermore, the relationship between eosinophils and late ACR is unknown. In this study, we determined to evaluate the predictive value of elevated eosinophils in the diagnosis of late ACR occurred after 6 months following LT. **Methods:** The peripheral blood eosinophil count the day before or on the day of biopsy in 185 biopsies from 161 liver transplant patients were retrospectively analyzed. Patients were divided into ACR group and non-acute rejection (non-ACR) group according to histopathologic findings. The optimal cut-off value for diagnosing ACR was determined by using a receiver operating characteristic (ROC) curve analysis. Sensitivity and specificity was calculated. **Results:** Of the 185 liver biopsies, 110 showed ACR, including 24 cases of late ACR (21.8%). The absolute and relative eosinophil counts were significantly higher in the ACR group than in the non-ACR group. If absolute eosinophil
count \( \geq 0.4 \times 10^9/L \) or relative eosinophil count \( \geq 4\% \) was defined as elevated, 28 cases showed an elevated eosinophil count. Of the 25 biopsies with elevated eosinophil count in ACR group, only 2 (6.3\%) were in early ACR (within one month post-transplant), with 13 in mid-term ACR (from 1 to 6 months, 24.1\%) and 10 in late ACR (41.7\%), respectively. Relative eosinophil count was significantly higher in the late ACR patients than those in the non-ACR patients. ROC analysis showed that absolute eosinophil count of \( 0.145 \times 10^9/L \) and relative eosinophil count of 2.3\% have the Youden index (0.333 and 0.625, respectively) with the area under the ROC curve of 0.746 and 0.813, respectively. When absolute eosinophil count \( \geq 0.145 \times 10^9/L \) or relative eosinophil count \( \geq 2.3\% \) was defined as elevated, the sensitivity and specificity of raised absolute and relative eosinophil count to predict late ACR was 45.8\% and 87.5\%, and 75\% and 87.5\%, respectively. When absolute eosinophil count \( \geq 0.285 \times 10^9/L \) or relative eosinophil count \( \geq 3\% \) was defined as elevated, the sensitivity and specificity was 25\% and 100\%, and 50\% and 100\%, respectively. All patients with absolute eosinophil count \( \geq 0.285 \times 10^9/L \) or relative eosinophil count \( \geq 3\% \) were the highest predictive value for diagnosing late ACR after LT.

**Key Word(s):** 1. OLT; 2. acute rejection; 3. eosinophils; 4. predictive value;

**PR0420**

**Metabolic Liver Diseases (NASH, etc.)**

**PPARgamma is increased in mice with high fat diet induced liver steatosis**

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**Objective:** It is not clear whether peroxisome proliferator-activated receptor gamma (PPARgamma) is involved in liver steatosis. This study was designed to observe the change of expression of PPARgamma in high fat diet-induced liver steatosis.  
**Methods:** Liver steatosis was induced in C57BL/6 mice via feeding with high fat diet for 16 weeks and the mice with Chow diet as the control group. The hepatic protein and mRNA level of PPARgamma were determined by western blot and RT-PCR.  
**Results:** Macroscopic and microscopic findings demonstrated that lipids were accumulated in the liver and liver steatosis was confirmed. Western blot showed that PPARgamma was obviously higher in the high fat diet group than that in the control group. The relative IDE mRNA level of the high fat diet induced steatosis group was significantly higher than those in the control group (1 ± 0.108 vs 1.844 ± 0.158, \( p < 0.05 \)).  
**Conclusion:** PPARgamma is increased in mice with high fat diet induced liver steatosis.  
**Key Word(s):** 1. PPARgamma; 2. Liver steatosis;

**PR0421**

**Metabolic Liver Diseases (NASH, etc.)**

**Hepatic amyloidosis: analysis of 6 cases and review of the literature**

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**Objective:** To learn more about the profile of clinical characters of hepatic amyloidosis (HA) and improve precise diagnosis of HA.  
**Methods:** We collected and analyzed clinical information of 6 patients with HA hospitalized in the first affiliated hospital of Sun Yet-sen University and reviewed 59 cases reported in the literatures from CNKI periodical database to summarize the clinical features of hepatic amyloidosis.  
**Results:** Nearly 96.2\% HA patients had hepatomegaly, and more than half of these HA patients had the symptom of fatigue and wasting. Laboratory tests showed commonly elevated levels of serum GGT and ALP, with proteinuria and hypoproteinemia. 6 of 9 (66.7\%) HA patients with obvious jaundice died during hospitalization; and prevalence of bleeding during the procedure of liver biopsy in these HA patient was 7.4\% (4/54) and the mortality of these bleeding patients was 75\% (3/4).  
**Conclusion:** hepatomegaly was the commonest manifestation of HA and those with jaundice had poorer prognosis, as well as live biopsy were a procedure with high risk of bleeding and mortality.  
**Key Word(s):** 1. liver; 2. amyloidosis; 3. biopsy;
**PR0422**

**Metabolic Liver Diseases (NASH, etc.)**

Insulin degrading enzyme is increased in mice with high fat diet induced liver steatosis

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**Objective:** Insulin degrading enzyme (IDE) is the key enzyme that controls the clearance of insulin in the liver which plays a role in insulin resistance. It is not clear whether the clearance of insulin is altered in liver steatosis. **Methods:** This study was designed to observe the change of expression of IDE in C57BL/6 mice with high fat diet-induced liver steatosis. Liver steatosis was induced in C57BL/6 mice via feeding with high fat diet for 16 weeks and the mice with chow diet as the control group. The hepatic protein and mRNA level of IDE were determined by western blot and RT-PCR. To make a compare, the intensity of the protein signal was analyzed quantitatively using Image J software. **Results:** Macroscopic and microscopic findings demonstrated that lipids were accumulated in the liver and liver steatosis was confirmed. Western blot showed that IDE was obviously higher in the high fat diet group that that in the control group (1 ± 0.17 vs 2.50 ± 0.24, p < 0.05). But the relative IDE mRNA level of the high fat diet induced steatosis group was significantly lower than those in the control group (1 ± 0.09 vs 0.35 ± 0.05, p < 0.05). The decreased expression of IDE mRNA may be a compensation for the increased expression of IDE protein level. **Conclusion:** IDE is increased in mice with high fat diet induced liver steatosis.

**Key Word(s):** 1. insulin degrading; 2. liver steatosis;

**PR0423**

**Metabolic Liver Diseases (NASH, etc.)**

Fibroscan controlled attenuation parameter assessment of liver steatosis and fibrosis in NAFLD

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**Objective:** There is a need for us to get some effective and noninvasive methods to detect liver steatosis, which is a factor of liver fibrosis. Ultrasonic controlled attenuation parameter (CAP) is devised to target liver steatosis, which is based on vibration control transient elastography (VCTE). In this work, liver steatosis is evaluated using the novel CAP. **Methods:** All 60 patients were received examinations of liver ultrasound, serum liver enzymes, and Fibroscan for measurement of transient elastography (TE) and CAP. Literature shows E value of Fibroscan significantly correlated with liver fibrosis. Grades of steatosis were divided by four groups (S0, S1, S2 and S3) by using Fibroscan CAP, 245,299 and 321 were the cutoff values of S1, S2 and S3. Mild and moderate to severe fatty liver were divided by using Ultrasound. **Results:** With the grades of steatosis progress diagnosed by Fibroscan CAP, the CAP value was significantly elevated in late groups compared with their previous groups respectively (table 1, p < 0.05), but there is no difference between the two groups diagnosed by Ultrasonic. No correlation was found for liver enzymes with grade of steatosis diagnosed by both methods. The E value was significantly increased in S3 group compared with in S0, S1 groups (table1, p < 0.05), indicated that with liver steatosis worsen, liver fibrosis was progressed. But there was no different in E values between the two groups diagnosed by Ultrasound. **Conclusion:** Combined with the assessment of liver fibrosis and steatosis using, Fibroscan CAP is a promising non-invasive tool to assess and quantify steatosis, to expand the usage that explore and follow-up patients with liver disease.

**Key Word(s):** 1. NAFLD; 2. CAP; 3. Fibroscan; 4. TE;

| Instrument | Groups          | CAP value | E value |
|------------|-----------------|-----------|---------|
| Ultrasound | Mild            | 296 ± 9.6 | 6.0 ± 0.33 |
|            | Moderate to Severe | 314.8 ± 16.2 | 6.9 ± 0.85 |
| Fibroscan@CAP | S0    | 215.3 ± 14.3 | 4.7 ± 0.34 |
|            | S1               | 283.3 ± 44a | 5.6 ± 0.41 |
|            | S2               | 311 ± 2,a,b  | 6.3 ± 0.75  |
|            | S3               | 353 ± 7,9a,b,c | 7.1 ± 0.58ab |

a compared with S0. b compared with S1. c compared with S2. p < 0.05

**PR0424**

**Metabolic Liver Diseases (NASH, etc.)**

Hepatic steatosis in 675 cases of liver biopsy pathology

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**Objective:** To analyze the liver cell steatosis according to the liver biopsy pathology results of 675 cases, in order to guide clinical diagnosis and treatment. **Methods:** 675 cases of liver biopsy pathology results were collected from July 2008 to September 2011, to analyze the feature of the pathological diagnosis and hepatic steatosis, and the incidence of hepatic cell steatosis in various liver diseases. **Results:** The result showed that 72.0% patients with liver puncture were liver tumors or tumor-like changes, autoimmune liver disease, chronic viral hepatitis and cirrhosis, 15.7% patients have hepatic cell steatosis, of which 49% patients with liver cirrhosis, viral hepatitis and liver damage, alcoholic/non-alcoholic fatty liver disease accounted for 33%. The steatosis rate of cirrhosis was up to 30.7%. **Conclusion:** Hepatic steatosis was commonly found in various chronic liver damage diseases, liver cirrhosis dominate the first on the ratio list, which was 30.7%. So we should pay high attention on hepatic steatosis in clinical diagnosis and treatment process.

**Key Word(s):** 1. Liver biopsy; 2. Hepatic steatosis; 3. Serum triglycerides;

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**PR0426**

**Metabolic Liver Diseases (NASH, etc.)**

The possible role of the macrophage polarization occurs in the pathogenesis of NAFLD

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**Objective:** NAFLD is closely associated with insulin resistance and genetic susceptibility. Recent research indicates that macrophage polarization may have played an important role in the NAFLD. **Methods:** Samples were obtained from subcutaneous adipose tissue (SAT) and epiploic adipose tissue (EAT) during laparoscopic cholecystectomy (LC) (NAFLD, n = 27, non-NAFLD, n = 28). We collected and detected the clinical data of patients with age, sex, BMI, abdominal circumference, glucose, ALT, AST, TG, HOMA index, insulin and FFA. We used CD68 as an macrophage marker, CD11c as an M1 marker and CD206 as an M2 marker. The infiltration of the Macrophages, M1 and M2 in SAT and EAT was investigated by IHC. The plasma concentrations for IL-6 and MCP-1 was detected by ELISA. The association of M1 macrophage and M2 macrophage in SAT and EAT with IL-6 and MCP-1 was analyzed. **Results:** There were no difference in age, sex, abdominal circumference, glucose, ALT, AST and FFA between NAFLD group and Non-NAFLD group (P > 0.05). BMI, Insulin, HOMA index and TG in NAFLD group were higher than non-NAFLD group (P < 0.05). The number of M1 and M2 in SAT and EAT was increased (P < 0.01). A significant positive correlation between NAS and M1 in SAT, EAT and M2 in SAT (EAT < 0.01). The number of M1 in SAT and EAT was much higher (P < 0.01). And M1/M2 ratio in SAT and EAT was also increased in NAFLD group (P < 0.01). The level of IL-6 and MCP-1 was correlation in macrophage, M1 macrophage and M2 macrophage in SAT and EAT (P > 0.05). **Conclusion:** There were insulin resistance and lipid metabolism disorder in NAFLD group. The infiltration of the Macrophages and macrophage polarization in epiploic adipose tissue and subcutaneous adipose tissue were associated with the development of NAFLD. The infiltration of the macrophages in SAT and EAT are associated with steatosis, lobular inflammation and fibrosis.

**Key Word(s):** 1. Macrophages; 2. NAFLD; 3. Polarization;

**PR0427**

**Metabolic Liver Diseases (NASH, etc.)**

The dynamic changes of expression and significance of PACS-2 in non-alcoholic fatty liver disease

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**Objective:** To clarify the expression change and significance of PACS-2 (phosphofurin acidic cluster sorting protein-2) in non-alcoholic fatty liver disease (NAFLD). **Methods:** The expression level of PACS-2 mRNA were decreased in the early Stages (4 h, 8 h), however, in the late stages (12 h, 24 h), were up-regulated; the expression levels of GRP78 were increased (P < 0.01). However, the expression levels of Bax, Caspase-3 mRNA in were significantly increased in 12 h, 24 h groups (P < 0.01). The protein expression levels of PACS-2 were significantly down-regulated, then were up-regulated. The protein expression levels of GRP78 in 8 h group were up-regulated. The protein expression levels of Bax, Caspase-3 were significantly increased in the late stages of NAFLD (P < 0.01). In rats NAFLD model. The protein expression levels of PACS-2 were significantly decreased in the in the early Stages (4 w, 8 w), but, in the late stages (16 w, 20 w) were up-regulated; (P < 0.01). The protein expression levels of GRP78 in 4 w group were up-regulated, and then were continued to increased (P < 0.01). The protein expression levels of Bax, Caspase-3 were significantly up-regulated as compared to that in the control group in the late stages of NAFLD (P < 0.01). **Conclusion:** in early stages of NAFLD, the low expression of PACS-2 may induce the endoplasmic reticulum stress during the NAFLD process, in the late stages of the disease, the up expression of PACS-2 may take part in apoptosis, and further result in the injury of hepatocyte.

**Key Word(s):** 1. NAFLD; 2. ERS; 3. PACS-2;

**PR0429**

**Metabolic Liver Diseases (NASH, etc.)**

Activation or inhibition of AMPK signal attenuates endotoxin induced live injury

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**Objective:** Background Endotoxia is the clinical challenge with high mortality and poor prognosis, which can be induced during severe trauma, burns, and intestinal infection. As the most potent microbial mediator implicated in endotoxia, lipopolysaccharide (LPS) can initiate immune cell activation, induce release of large amounts of proinflammatory cytokines and chemokines, and trigger multiple organ injury, which is typically characterized with liver injury and dysfunction. Recently, AMP-activated protein kinase (AMPK) has been reported as one of anti-inflammatory signals, and its ligand 5'-Aminimidazole-4-carboxamide (AICAR) has been used in some animal models such as colitis, asthma. However, it remains to be elucidated if activation of inhibition AMPK signal can attenuate endotoxia-induced immune response and liver injury. Objective To study the effects of AICAR as AMPK activator and Compound C as AMPK inhibitor on LPS induced liver injury. **Methods:** Methods BALB/c mice were randomly divided into five groups: Control (i.p. injection of saline, LPS (i.p. injection of LPS 2 mg/kg body weight), LPS+ AICAR (i.p. injection of AICAR 500 mg/kg and 1 h later i.p. injection of LPS 2 mg/kg body weight), LPS+Compound C (i.p. injection of Compound C 20 mg/kg and 1 h later i.p. injection of LPS 2 mg/kg body weight), and LPS+AICAR+Compound C (i.p. injection of the same doses of both chemicals and 1 h later i.p. injection of LPS 2 mg/kg body weight). The mice were sacrificed 12 hours after LPS injection, and tissues and blood were collected for analysis. The survival experiments were performed in five group mice mentioned above with injection of LPS (20 mg/kg body weight). The injection of AICAR and/or Compound C remained the same dose as above. Survival of mice was monitored for 24 hours. **Results:** Result 1. LPS induced live injury with increased serum ALT, AST, and TNF levels, high histological injury score, apoptosis of hepatocytes, accumulation of macrophage and neutrophil evidenced with increment of CD68 expression and MPO activity in liver.2. AICAR or compound C treatment decreased ALT, AST, and TNF levels in serum, reduced histological injury score, CD68 expression, MPO activity, apoptosis cell number in liver of mice with endotoxia. However, combination of AICAR and compound C treatments failed to exhibit the benefit effect of each single treatment.3. In survival experiments, AICAR or compound C treatment improved survival of endotoxic mice. **Conclusion:** Conclusion AICAR or compound C treatment attenuates LPS-induced liver injury.
dysfunction, indicating that activation of inhibition AMPK signal can inhibit endotoxemia-induced immune response and liver injury. AMPK signal may provide an alternative to the current clinical treatments for endotoxemia.

**Key Word(s):** 1. Endotoxemia; 2. AMPK; 3. AICAR; 4. liver damage;

**PR0430**

**Metabolic Liver Diseases (NASH, etc.)**

**Effect of GLP-1 on diet induce non-alcoholic fatty liver disease in rats**

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**Objective:** The aims of the study were to investigate the effect of glucagon-like peptide-1 (GLP-1) on diet induce non-alcoholic fatty liver disease (NAFLD) in rats.  
**Methods:** A total of 30 male rats were randomly divided into three groups. Each group contained 10 rats, in which they were fed with normal diet (ND), high-fat diet (HFD), high-fat diet with intraperitoneal injection of liraglutide (HFD+GLP-1, first 12 weeks with HFD, later 4 weeks with liraglutide) for 16 weeks respectively. After 16 weeks’ feeding, the rats were killed ethically and their blood samples and liver tissues were collected. The levels of aminotransferase (ALT), aspartate-aminotransferase (AST), triglyceride (TG), total-cholesterol (TC) were detected by biochemical automatic analyzer. The levels of superoxide dismutase (SOD) and malondialdehyde (MDA), tumor necrosis factor-a (TNF-a), JNK-1 and P-JNK1 in liver homogenates were detected by RIA, ELISA and Western blot respectively.  
**Results:** The body weight, liver index, serum and liver homogenates levels of TG, TC, ALT and TG, TC, MAD, TNF-a in the HFD group were apparently higher than those in the normal group, while the level of SOD decreased significantly. When compared with the HFD group, the body weight, liver index, serum and liver homogenates levels of TG, TC, ALT and TG, TC, MAD, TNF-a in the HFD+GLP-1 group decreased apparently, while the level of SOD increased.  
**Conclusion:** Liraglutide (GLP-1) has an anti-inflammatory effect on NAFLD rats, which is conducted by decreasing blood lipid and liver homogenate inflammation index level.

**Key Word(s):** 1. NAFLD; 2. GLP-1; 3. TNF-a;

**PR0431**

**Metabolic Liver Diseases (NASH, etc.)**

**Frequency and risk factors of antituberculosis therapy-induced hepatotoxicity**

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**Objective:** Hepatotoxicity is one of common adverse effects of antituberculosis therapy (ATT) and major etiology of suspension or failure of ATT. However, factors predicting its development are still controversial. This study was conducted to evaluate the frequency of antituberculosis therapy-induced hepatotoxicity and the risk factors related to its development.  
**Methods:** The author reviewed retrospectively the medical records of the 2,204 patients who had taken ATT for 2 weeks or longer from January 1, 2005 through June 30, 2010 in Gyeong-Sang National University, South Korea. The patients’ demographic, social, clinical and laboratory data were collected and analyzed for the relationships between hepatotoxicity and these various parameters. Hepatotoxicity was determined by investigation of liver tests at the time of pretreatment and 7, 14, 30, 60, and 90 days of ATT.  
**Results:** Two-hundred two (9.2%) out of 2,204 patients taken ATT developed hepatotoxicity. Mean age of the patients with ATT-induced hepatotoxicity was 52.5 ± 18.7 years and 130 (64.6%) patients were male. The frequency of ATT-induced hepatotoxicity was higher in the patients with abnormal baseline liver function than the ones with normal liver function (88/541, 16.3% vs. 114/1,663, 6.9%, p = 0.000), hepatitis B virus (HBV) or hepatitis C virus (HCV) infected than non-infected (28/150, 18.7% vs. 174/2,054, 8.5%, p = 0.000) patients, and the patients with primary hepatocellular carcinoma (HCC) than the ones without it (7/17, 41.2% vs. 195/2,187, 8.9%, p = 0.000). There was no significant relationship between the frequency of ATT-induced hepatotoxicity and gender, old age over 60 years or 35 years, body mass index, alcohol drink, indication of ATT, underlying diseases except HCC, and past history of ATT: Baseline LFT abnormality, underlying HCC and HBV or HCV infections were risk factors for ATT-induced hepatotoxicity on univariate and multivariate analysis. The majority of patients with ATT-induced hepatotoxicity (170/202, 84.2%) were identified within first 30 days of ATT, and hepatotoxicity occurred within first 7 days in 64 patients (31.7%).  
**Conclusion:** The frequency of ATT-induced hepatotoxicity was 9.2%, and its risk factors were abnormal baseline liver function, and underlying HBV or HCV infection and hepatocellular carcinoma. Closed monitoring should be required for the patients who have these risk factors during first 30 days of ATT, especially first 7 days.

**Key Word(s):** 1. antituberculosis; 2. hepatotoxicity; 3. frequency; 4. risk factor;

**PR0432**

**Metabolic Liver Diseases (NASH, etc.)**

**Effects of synbiotic supplementation on nonalcoholic fatty liver disease**

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**Objective:** Non-alcoholic fatty liver disease (NAFLD) is the most common chronic liver disease in the world and can lead to non-alcoholic steatohepatitis (NASH), cirrhosis, and hepatocellular carcinoma. Oral administration of synbiotic has been proposed as an effective treatment for NAFLD because of its modulating effect on the gut flora, which can influence the gut-liver axis. The aim of the present study was to evaluate the effects of supplementation with synbiotic on insulin resistance, hepatic fibrosis, lipid profile, liver enzymes, and inflammatory markers in patients with NAFLD.  
**Methods:** In a randomized, double-blind, placebo-controlled clinical pilot study, 52 patients with NAFLD were supplemented twice/day for 28 weeks, with either a synbiotic or a placebo capsule. Both groups were advised to follow an energy-balanced diet and physical activity recommendations.  
**Results:** At the end of study, the treatment group showed a significant decrease in the following NAFLD parameters compared to the placebo group: ALT (−25.1 vs. −7.29 IU/L; p < 0.001), AST (−31.33 vs. −7.94 IU/L; p < 0.001), GGT (−15.08 vs. −21.1 IU/L; p < 0.001), TG (−67.83 vs. −9.32 mmol/L; p < 0.001), TC (−23.79 vs. −14.23 mmol/L; p < 0.001), and HOMA-IR (−0.66 vs. −0.36 p < 0.01), while HDL increased (+7.25 vs. +0.09 mmol/L; p < 0.001). Inflammatory markers also decreased as followed: hs-CRP (−2.3 vs. −1.04 mmol/L; p < 0.05), TNF-α (−1.4 vs. −0.59 mmol/L; p < 0.001), total NF-κB p65 (−0.016 vs. −0.008 mmol/L; p < 0.001). Moreover the hepatic
fibrosis score reduced significantly in the Symbiotic group compared to placebo group after 28 weeks of treatment (−2.98 vs. −0.77 kPa; p < 0.001). **Conclusion:** Symbiotic supplementation in addition to lifestyle modification is superior to lifestyle modification alone for the treatment of NAFLD, at least partially through attenuation of insulin resistance, hepatic fibrosis, lipid profile, liver enzymes, and inflammatory markers. Whether these effects will sustain in longer treatment durations remains to be determined.

**Key Word(s):** 1. NAFLD; 2. probiotic; 3. symbiotic;

**PR0433**

**Metabolic Liver Diseases (NASH, etc.)**

**Application of umbilical cord stem cells to acute fatty liver of pregnancy: two cases report**

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**Additional Authors:** YINGJIE MA, LI YANG, ZHILING WANG, LI HAN

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**Objective:** Acute fatty liver of pregnancy (AFLP) is a rare, potentially fatal complication of late pregnancy. It can lead to severe liver failure. Liver failure and sepsis is the leading cause of death. Current maternal and fetal mortality rates are estimated to be 18% and 23%, respectively. Recent studies have shown that umbilical cord blood stem cells (UCBSC) and umbilical cord mesenchymal stem cells (UC-MSC) can differentiate into hepatocyte-like cells in pathologic liver tissue and restore the injured livers. We present two cases of successful recovery of AFLP after treatment of UCBSC and UC-MSC.

**Methods:** Two women were admitted at about 36 weeks gestation with history of weakness, nausea, severe jaundice and lower limb swelling. Liver function and coagulation profile showed that the patients had liver failure. AFLP was diagnosed. Emergency lower segment caesarean section was performed and delivered two live babies. The umbilical cord blood of patients was collected immediately after delivery. Then UCBSC were isolated using Ficoll-Hypaque, suspended in normal sodium, transfused into patients by intravenous. At the same time, cryopreserved allogeneic UC-MSC were recovered and proliferated. At postpartum 4 days, 8 days and 12 days, UC-MSC was suspended in normal sodium and transfused into patients by intravenous. The umbilical cord blood of patients was collected immediately after delivery. Then UCBSC were isolated using Ficoll-Hypaque, suspended in normal sodium, transfused into patients by intravenous. At the same time, cryopreserved allogeneic UC-MSC were recovered and proliferated. At postpartum 4 days, 8 days and 12 days, UC-MSC was suspended in normal sodium and transfused into patients by intravenous.

**Results:** The hospitalization time of two patients was 40 days and 36 days respectively. The bilirubin and liver enzymes of the patient started to decrease at post-treatment time of two patients was 40 days and 36 days respectively. The sodium and transfused into patients by intravenous.

**Conclusion:** These two cases indicate that USBSC and UC-MSC can be used in the treatment of AFLP. They may help to restore injured liver function in patients with AFLP.

**Key Word(s):** 1. AFLP; 2. Umbilical Cord; 3. stem cells;

**PR0434**

**Metabolic Liver Diseases (NASH, etc.)**

**Clinical application of probiotics in the treatment of hepatic encephalopathy**

**Presenting Author:** ZHU ZHITAI

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**Affiliations:** ying tan people’s hospital

**Objective:** To explore the effect of probiotics in the treatment of patients with hepatic encephalopathy. **Methods:** 30 cases of patients with hepatic encephalopathy (excluding clinical IV stage), were randomly divided into treatment group and control group. Treatment group: routine liver protection against hepatic coma therapy, oral or nasal feeding live bacillus cereus capsules (0.5/, 3/d), Shea diabetes 10 ml/, 3 times /d; the control group: conventional liver protecting against hepatic coma therapy, oral or nasal feeding lactulose diabetes 10 ml/, 3 /d. For 1 weeks. **Results:** Compared with the treatment group and control group, two in treating hepatic encephalopathy has good curative effect. But the two time in awake patients, reduce the blood ammonia level, there was significant difference (P < 0.05). **Conclusion:** Probiotics to improve the clinical symptoms of the patients with hepatic encephalopathy, lowering blood ammonia, has certain value, conducive to disease in patients with hepatic encephalopathy improvement.

**Key Word(s):** 1. probiotics;

**PR0435**

**Metabolic Liver Diseases (NASH, etc.)**

**Efficacy of Bicyclol Tablets the treatment of adult nonalcoholic fatty liver disease: a meta-analysis**

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**Affiliations:** The first affiliated hospital of Sun Yat-sen University

**Objective:** To assess the efficacy of Bicyclol Tablets in the treatment of nonalcoholic fatty liver disease (NAFLD). **Methods:** Randomized controlled clinical trials (RCTs) comparing the efficacy of Bicyclol Tablets in combination with dietary control and dietary control alone or other basic liver drug in the treatment of NAFLD were retrieved by searching PubMed, The Cochrane Central Register of Controlled Trials and Chinese Biomedical Literature Database. Review Manager 5.0 were used for meta-analysis. **Results:** Six RCTs were selected for analysis in accordance with inclusion criteria. Compared to basic drugs (63.30%), Bicyclol Tablets (88.79%) were associated with a higher rate of symptom remission [63.30% vs 88.79%; RR = 4.60, 95%CI = (2.29, 9.25), P < 0.001]. Compared with dietary control alone or basic drugs, Bicyclol Tablets in combination with dietary control decreased serum ALT, AST, TG and TC significantly, and the weighted mean differences (WMDs) were −22.37 U/L (95%CI: [−38.07, −6.05], P = 0.001), −9.89 U/L (95%CI: [−19.59, −0.18], P < 0.0001), −1.19 U/L (95%CI: [−2.08, −0.30], P < 0.001) and −0.51 U/L (95%CI: [−0.84, −0.17], P = 0.002), respectively. **Conclusion:** Bicyclol Tablets is effective in decreasing serum ALT, AST, TG and TC levels. Bicyclol Tablets is more effective in relieving clinical symptom and improving radiological scores.

**Key Word(s):** 1. Bicyclol Tablets; 2. NAFLD; 3. Meta-analysis;

**PR0436**

**Metabolic Liver Diseases (NASH, etc.)**

**Correlation between liver histology and non-invasive markers of fibrosis in adult filipino patients with NAFLD**

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**Objective:** Non-alcoholic fatty liver disease (NAFLD) is the most common cause of liver disease in the western world. This study aims to validate whether the available non-invasive scoring systems are comparable to Liver biopsy in diagnosing NAFLD among Filipino patients.
Methods: This is a cross sectional analysis of a retrospective cohort study. The following scores were calculated for each patient. These include the aspartate aminotransferase (AST)-to-platelet ratio index (APRI), the AST/alanine aminotransferase (ALT) ratio (AAR), the BARD score, the FIB-4 score. Statistical analyses were done using SPSS software version 21.0. To compare the accuracy of the scoring systems, the area under the ROC (AUROC) was done. Results: A total of 106 patients were included and analyzed. Fifty-eight (55%) were male and the mean age was 47 ± 11. Thirty-four (32%) were obese (BMI ≥ 30) and the mean BMI was 28 ± 5 kg/m². Forty-nine (46%) had NASH on liver biopsy and 12 (11%) had advanced fibrosis (Kleiner stage 3 or 4). The FIB-4 score had the best diagnostic accuracy for advanced fibrosis (AUROC 0.777), followed by APRI (AUROC 0.765), AST/ALT ratio (AUROC 0.672) and BARD score (AUROC 0.518). Conclusion: Our study showed that the following non-invasive scoring systems: FIB-4 and APRI may reliably exclude advanced fibrosis in subjects with NAFLD. Introduction of these scores in clinical practice may reduce the proportion of patients that require liver biopsy to diagnose mild disease and can help during surveillance of patients during treatment.

Key Word(s): 1. NAFLD; 2. non-invasive score; 3. liver biopsy; 4. liver fibrosis;

**PR0438**

Nutrition and Metabolism

**Immune modulatory mechanisms of yakult in prevention of colitis-associated colorectal cancer**

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**Objective:** Inflammatory bowel disease (IBD) can increase the risk of colorectal cancer. Probiotic bacteria produce immune regulatory metabolites in vitro such as conjugated linoleic acid (CLA), a polyunsaturated fatty acid with potent anti-carcinogenic effects. This study aimed to investigate the cellular and molecular mechanisms underlying the efficacy of Yakult probiotic bacteria in mouse models of colitis-associated colorectal cancer. **Methods:** The immune modulatory mechanisms of Yakult probiotic bacteria were investigated in mouse models of inflammation-driven colorectal cancer. Colonic specimens were collected for histopathology, gene expression and flow cytometry analyses. Immune cell subsets in the mesenteric lymph nodes (MLN), spleen and colonic lamina propria lymphocytes (LPL) were phenotypically and functionally characterized. **Results:** Mice treated with Yakult recovered faster from the acute inflammatory phase of disease and had lower disease severity in the chronic, tumor-bearing phase of disease. Adenoma and adenocarcinoma formation was also diminished by treatment. Yakult increased the mRNA expression of TNF-α, angiotatin and PPAR γ. Moreover, Yakult -treated mice had increased IL-17 expression in MLN CD4+ T cells and accumulation of Treg LPL and memory CD4+ T cells. **Conclusion:** Yakult suppressed colon carcinogenesis, and Yakult could show greater anti-carcinogenic and anti-inflammatory activities. Mechanistically, Yakult targeted regulatory mucosal CD4+ T cell responses in the colonic mucosa.

**Key Word(s):** 1. Yakult; 2. mechanisms; 3. Prevention; 4. colorectal cancer;

**PR0439**

Nutrition and Metabolism

**Daily water intake of female university students in Ahvaz, Iran**

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**Objective:** Water is an essential nutrient, which plays an important role in prevention of body from dehydration and metabolic oxidation. Very few studies have examined the total fluid intake in different countries, including Iran. The aim of this study was to investigate the total daily water consumption among female university students of nutrition department in Ahvaz, Iran. **Methods:** Total beverages intake was estimated in female university students of nutrition department in Jundishapur University of Medical Sciences of Ahvaz, Iran. Sixty-nine participants (20–23 years old) attending this department were invited to participate in this study. They completed a three-day food record with an interview. **Results:** Daily...
fluids consumption is reported here. Forty-nine of participants completed all aspects of the study (71% of those whom were eligible). The mean total fluids intake (based on foods and beverages) was 1420 m/d (±500), and mean total water intake was 695 ml per day (±300). Conclusion: Water was consumed less than other drinks and fluids, including fruits juice, milk, dough, soft drinks, sugar-sweetened beverages, coffee, and tea. This study showed the inadequacy of water intake among nutrition students.

Key Word(s): 1. water; 2. dehydration;

PR0440
Nutrition and Metabolism
The effect of octreotide on fatty infiltration of the pancreas in high-fat diet induced obesity rats
Presenting Author: TAO YU
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Objective: To investigate focal fatty infiltration of the pancreas in high-fat diet induced obesity rats and the effect of octreotide intervention on it.
Methods: SD rats were designed into the control group (n = 14) and the high-fat diet group (n = 36). Obese rats from the high-fat diet group were further divided into an obese group (n = 14) and an octreotide-treated group (n = 16). Rats in the octreotide-treated group were subcutaneously injected with octreotide for 8 days. Body weight, fasting insulin (FINS), and fasting plasma glucose (FPG), triglyceride (TG), total cholesterol (TC) and high-density lipoprotein cholesterol (HDL-C) levels, and pancreatic TG content were determined. Homeostatic model assessment (HOMA) value was calculated. Pathological changes of pancreas were examined with light microscopy.
Results: Body weight, Lee’s index, FPG, TG, TC, FINS levels and HOMA value were significantly higher and HDL-C level was significantly lower in the obese rats than those in the controls (p < 0.05). Pancreatic TG contents in the obese group were significantly increased compared with those in the control group, and obvious pancreatic interlobular fatty infiltration was observed in the obese group. After octreotide treatment, body weight, Lee’s index, HOMA value, as well as other plasma parameters in the obese rats showed decreased (p < 0.05). In the octreotide-treated group pancreatic TG content was significantly decreased compared with that in the non-treated obese group (p < 0.05) and pancreatic interlobular fatty infiltration was alleviated. Conclusion: Octreotide might improve pancreatic fatty infiltration, insulin resistance and lipid disorder in the high-fat diet induced obesity rats, and alleviate pancreatic injury.
Key Word(s): 1. octreotide; 2. obesity; 3. high-fat diet; 4. fatty infiltration;

PR0441
Oncology Basic
Clinical analysis of primary colon malignant lymphoma
Presenting Author: PENG QIU-PING
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Objective: Primary colon malignant lymphoma is relatively rare. In order to improve the diagnosis and treatment level of primary colon malignant lymphoma, the clinical presentations, diagnosis, treatment and prognostic factors of primary colon malignant lymphoma were investigated in our study.
Methods: the clinical data of patients with primary colon malignant lymphoma admitted by our hospitals from January 1990 to December 2008 were analyzed retrospectively, and the prognostic factors were evaluated. Results: 37 patients were observed in this study, the male 23 cases, female 14 cases, at the age of 22 to 75, average 46.2. The clinical presentations included abdominal pain and abdominal mass (30), fever (27), loss of weight (10), and change in bowel movements (13). The site of pathological changes among the 37 cases varied: 19 (51.4%) in ileocecal area, 11 (29.7%) in ascending colon, 3 (8.1%) in transverse colon, 3 (8.1%) in descending colon, 1 (2.7%) in sigmoid colon. The pathological examination showed non-Hodgkin lymphoma in all patients. The tumor might originate from the following organisms: B cell (n = 29, 78.4%), T cell (n = 8, 21.6%). The coincidence rate of endoscopic biopsy with pathology of resected specimen was 40.0% (12/30). Surgeries followed by chemo-radiotherapy were major treatment. The sum 5 year survival rate was 61.2% in 28 cases followed up. Conclusion: primary colon malignant lymphoma is characterized by multiple clinical manifestations. Abdominal pain and abdominal mass, fever, loss of weight, and change in bowel movements constituted the clinical aspects of primary colon malignant lymphoma. Radical surgery combined with chemotherapy is the main therapy against primary colon malignant lymphoma.
Key Word(s): 1. colon lymphoma; 2. diagnosis; 3. treatment;

PR0442
Oncology Basic
Expressions and clinical significance of pyruvate dehydrogenase kinase-I in colon cancer
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Objective: Unlike normal cells, glycolysis is enhanced in cancer cells. Pyruvate dehydrogenase kinase-I (PDK-I) catalyze cell glycolysis. In this study, the expressions of PDK-I and Ki-67 nuclear antigen (Ki-67) were investigated in colon cancer in order to reveal their clinical significance.
Methods: The protein expressions of PDK-I and Ki-67 in 41 patients (540 years) with colon cancer and 36 patients (40 years), were detected by immunohistochemical technique with retrospective comparison.
Results: The positive expression rates of PDK-I were 80.5% (33/41) and 66.7% (24/36) in young group and older group respectively. Moreover, the Ki-67 proliferation indexes of both groups were (56.2 ± 2.3)% and (45.4 ± 3.1)% respectively. Compared the young group with the older group, there were significant differences in the two positive expressions (both, P < 0.01). Moreover, compared these positive expressions of PDK-I and Ki-67 with those negative expressions in the young colon cancer patients, there were significant differences in cancer’s differentiation and stage (both, P < 0.01). The positive expression of PDK-I was consistent with the positive expressions of Ki-67 in young patients with colon cancer.
Conclusion: The positive protein expressions of PDK-I may be malignant biomarkers.
Key Word(s): 1. colon cancer; 2. PDK-I; 3. glycolysis;

PR0443
Oncology Basic
Role of gastrokine 2 in gastric cancer and relationship between gastrokine 2 and trefoil factor 2
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Objective: Gastrokine-2 (GKN2) is a secretory protein which is expressed in gastric epithelial cells and may be used as candidate gene
of gastric cancer inhibitory gene. It is reported that trefoil factor 1 (TFF1) and trefoil factor 2 (TFF2) can respectively bind GKN2 together. In this study we investigated the expression and biological functions of GKN2 and the interaction between GKN2 and TFF2 in gastric cancer. **Methods:** Expression of GKN2 in gastric cancer cell lines and tissues was detected by using immunohistochemistry and Western blot. We overexpressed GKN2 or both GKN2 and TFF2 in SGC7901 cells and tested the interaction of GKN2-TFF2 by immunoprecipitation. Alterations in the proliferation, migration and invasion of the cells were determined by the Brdu, MTT assay and transwell chambers model. Apoptosis and cell cycle distribution was analyzed by flow cytometry. **Results:** GKN2 expression was significantly downregulated or lost in gastric cancer cell lines, gastric intestinal metaplasia and cancer. Ectopic expression of GKN2 suppressed proliferation, migration and invasion of SGC7901 cells and arrested cells cycle in the G1-S transition phase. In co-transfected cells, TFF2 and GKN2 did not combine each other. Overexpression of both GKN2 and TFF2 showed the inhibitory effect to the same extent compared with overexpression of GKN2 alone. **Conclusion:** GKN2 inhibits gastric cancer cell proliferation, migration and invasion. TFF2 may not interact or cooperate with GKN2 at the protein and functional level.

**Key Word(s):** 1. gastrokine 2; 2. trefoil factor 2; 3. gastric cancer;

**PR0445 Oncology Basic**

**Effect of TACE combined with and stereotactic conformal radiotherapy on HCC**

**Presenting Author:** KE CHUAN-QING  
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**Objective:** Most hepatocellular carcinoma (HCC) was advanced and unsectable in clinic. Transcatheter arterial chemoembolization (TACE) was important treatment method, and stereotactic conformal radiotherapy (SCRT) was also used in unsectable HCC. In this study, the clinical application and therapeutic effects of TACE combined with and SCRT were evaluated on patients with advanced unsectable HCC.  

**Methods:** Forty-five patients with advanced unsectable HCC hospitalized from February 2009 to February 2011 received the treatment of TACE combined with SCRT. Firstly, these patients were treated by two or three time procedure TACE. For TACE, 5-fluorouracil (1000–1500 mg) and cisplatin (60–80 mg) were perfused into the hepatic arteries, then mitomycin C (20 mg) and iodized oil (10–20 ml) were mixed and were given to embolized the hepatic arteries. Secondly, SCRT were applied on these cases. For SCRT, gamma knife stereotaxis radiation therapy was carried out. There were planning of treatment from 3 to 10 dots, 3–6 Gy per-fraction, 5 times per week, and the total treatment dose was 30–50 Gy, ≥50% isodose include PTV. The tumor size and serum AFP level were observed at per-3 months after combination treatment. The 1-, 2-year survival rates of the patients were analyzed. **Results:** Mean serum AFP level was significant decreased from 1824.0 ng/L to 212.6 ng/L. The average diameter of tumor before and after combination treatment were (7.21 ± 2.12)cm and (4.12 ± 1.53)cm. The survival rate of 1 and 2-year were 75.6% and 51.1% respectively. **Conclusion:** TACE combined with SCRT is effective for advanced unsectable HCC. Further clinical study on the combination application of TACE with SCRT is needed.

**Key Word(s):** 1. HCC; 2. TACE; 3. radiotherapy;

**PR0446 Oncology Basic**

**melatonin inhibits proliferation and induces apoptosis in AGS gastric adenocarcinoma cell line**

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**Objective:** Melatonin is an important hormone which has important role in circadian rhythm of human body, recently it has been cleared that it can have important role in regulating of some physiologic and pathological conditions especially cancer prevention though its’ role in inhibiting of breast and colon cancer has been confirmed but its’ role in gastric cancer is poor understood and this study aimed to show this role in gastric cancer.  

**Methods:** For in vitro study we have used AGS adenocarcinoma cell line cultured in 96 wells (10000 cells in each well in 96 cultureplate) and also for proliferation assay we used MITT Elisa Method and for apoptosis we used TUNEL in-situ fluorescent microscopic assay. Also for each MTT and TUNEL assay, 5 concentrations of melatonin (200,100,50,25,12.5,6.25 micro molar) were used, each concentration added to three well (triplicated) for 24,48 and 72 incubation time in 5% Co2 37 degree incubator.  

**Results:** Our results shown that melatonin at concentration of 200 and 100 micro molar at 48 hr, has significant anti-proliferative effect compared
Our previous study found that the proliferation of ESCC cells induced by EGFR activation can be inhibited by β-adrenergic receptor blockers. We hypothesized that EGFR activation promote tumor growth by the β2-adrenergic receptor / COX-2 pathway. This study aimed to explore whether EGFR activation can promote the COX-2 expression and tumor growth by β2-adrenergic receptor (ADRB2) pathways in ESCC cells and nude mouse model, and investigate the relationship of EGFR and COX-2 expression in human ESCC specimens.

**Methods:** Human ESCC cell line KYSE30 was treated with EGF, EGFR inhibitor (AG1478), β2-selective antagonist (ICI 118551) and cyclooxygenase-2 inhibitor (nimesulide). Cell survival was tested with MTT assay. The expression of COX-2 was detected by western blot and real-time reverse transcription PCR. Human ESCC xenograft in nude mice was administered with EGF combining or not combining EGFR inhibitor, β2-selective antagonist and cyclooxygenase-2 inhibitor. Tumor growth was observed and COX-2 expression was detected by western blot and real-time reverse transcription PCR. Western blotting was used to test ESCC and adjacent noncancerous tissue, the tissue samples were divided into two groups according to the level of EGFR protein expression, then COX-2 expression was detected. Immunohistochemistry was applied to detect the expression of COX-2 in ESCC tissue, then the relationship between the EGFR and COX-2 expression was evaluated.

**Results:**

1. EGFR, β2-adrenergic receptor and COX-2 was expressed in KYSE 30 cells. EGF stimulated KYSE30 cell proliferation in a dose-dependent manner. AG1478 (EGFR inhibitor), ICI 118551, (β2-selective antagonist) and nimesulide (highly selective cyclooxygenase-2 inhibitor) attenuated cell proliferation induced by EGF. AG1478 and ICI 118551 also abrogated EGF-induced upregulation of COX-2 expression in the mRNA and protein level.
2. Animal model indicated that EGF significantly stimulated the growth of human ESCC xenograft in nude mice, which was attenuated by AG1478, ICI 118,551, and nimesulide. Moreover, AG1478 and ICI 118551 abrogated EGF-induced upregulation of COX-2 expression in the mRNA and protein level.
3. Western blotting confirmed that the expression of COX-2 in EGFR high expression group was higher than that in EGFR low expression group. Immunohistochemistry showed that EGFR and COX-2 expression of the specimens of ESCC was positively correlated.

**Conclusion:** These data provided the first evidence that EGFR activation resulted in enhanced expression of COX-2 and tumor growth through activation of β2-adrenergic receptor in ESCC. β2-adrenergic receptor was a critical link between EGFR activation and COX-2 expression in human ESCC. This novel finding shed new light on combination of β-blocker and COX-2 inhibitor for the treatment of ESCC.

**Key Word(s):** 1. ESCC; 2. EGFR; 3. ADRB; 4. Cyclooxygenase-2;
PR0449
Oncology Basic
PLCE1 polymorphism and upper gastrointestinal cancer risk: a meta-analysis
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Objective: In recent years, the PLCE1 rs2274223 polymorphism has been extensively investigated as a potential risk factor for upper gastrointestinal cancers, including squamous cell carcinoma (ESCC) and gastric cancer. However, the results of these studies have been inconsistent.

Methods: A meta-analysis of 13 case-control studies was performed including more than 11,000 subjects with genotyped PLCE1 rs2274223 polymorphisms. Odds ratios (OR) with 95% confidence intervals (CI) were employed to assess the association of the PLCE1 rs2274223 polymorphism with a susceptibility to ESCC or gastric cancer. Results: A statistically significant increase in the risk of ESCC was associated with the PLCE1 rs2274223 polymorphism. This included the homozygous genetic model (OR = 1.46), heterozygous genetic model (OR = 1.25) and allelic genetic model (OR = 1.23). Similar results were consistently found for gastric cancer. In a subgroup analysis, the PLCE1 rs2274223 polymorphism was found to be a very sensitive marker for gastric cardia cancer. Thus, the PLCE1 rs2274223 polymorphism can potentially serve as a biomarker for cancer risk.

Key Word(s): 1. PLCE1; 2. Polymorphism; 3. Cancer; 4. Meta-Analysis;

PR0450
Oncology Basic
MicroRNA detection in feces, sputum, pleural effusion and urine: novel tools for cancer screening
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Objective: MicroRNAs (miRNAs) are short non-coding RNA sequences that play important roles in the regulation of gene expression. They have significant regulatory functions in basic cellular processes, including differentiation, proliferation, and apoptosis. miRNAs are differently expressed in tumors, compared with normal tissues. Methods: In this review, we focused mainly on the application of detecting miRNAs in the stool, sputum, pleural effusion and urine, to detect colon, lung, urological cancers, highlighting the role of miRNAs in early diagnosis and prognosis. Results: The high reproducibility, sensitivity and specificity of miRNAs in body fluids and feces make miRNAs as potential molecular markers for cancer screening. Conclusion: Interestingly, miRNAs are also stable and abundantly present in body fluids and feces. An increasingly large number of research studies have reported the role of miRNAs in this field.

Key Word(s): 1. MicroRNA; 2. Detection; 3. Novel Tools; 4. Cancer Screening;

PR0451
Oncology Basic
Assessment of cancer pain management knowledge in southwest China
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Objective: The management of pain is still a critical issue in the care of patients with cancer in China, especially in small city and county hospitals in southwest China. To estimate Chinese physicians’ competence in cancer pain management and their opinion on barrier to optimal pain management. Methods: A survey was carried out in 259 physicians during their fellowship training in a tertiary teaching hospital, using a questionnaire adapted from an earlier study from Eastern Cooperative Oncology Group (ECOG) of America. Results: The result showed the majority physicians felt that 70% of the cancer patients suffer pain. Near ninety percent (224/259) of these physicians thought they had poor trainings about cancer pain management. Concern about addiction to morphine was reported as the main reason physician’s hesitation for prescribing opioids. Lack of enough assessment to cancer pain was identified as the most significant barrier to optimal cancer pain management. Conclusion: There is a need to develop continuing medical education of palliative care and pain management for medical students and physicians of southwest hospitals.

Key Word(s): 1. Cancer Pain; 2. China;
respectively; VEGF mRNA: 1 vs 0.74 ± 0.122 vs 1.22 ± 0.075; VEGF protein secretion: 0.39 ± 0.05 vs 0.23 ± 0.02 vs 0.65 ± 0.06; VEGF protein secretion: 103 ± 8.96 vs 63.89 ± 8.44 vs 201.01 ± 17.93, the index of multiple comparisons between groups shows significant difference. 

**Conclusion:** Sphk1 promotes cell proliferation, invasion and migration and suppresses cell apoptosis, induces the VM formation in human HT-29 colon cancer cells possibly by up-regulating VEGF expression and secretion.

**Key Word(s):** 1. Vasculogenic Mimicry; 2. Sphingosine kinase 1; 3. Human colon cell; 4. VEGF;

**PR0453 Oncology Basic**

**The mechanism of COX-2 regulating HERG channel in gastric cancer cells**

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**Objective:** To elucidate the signal transduction pathway, by which cyclooxygenase-2 (COX-2) regulates HERG current in gastric cancer cells.

**Methods:** The HERG mRNA, protein and current in gastric cancer cells transfected with or without COX-2 antisense vector were measured by RT-PCR, Western blot and patch-clamp, respectively. Cyclic adenosine monophosphate (cAMP) concentration in gastric cancer cells transfected with or without COX-2 antisense vector was measured by ELISA. Construction of HERG mutant without cAMP-binding domain was completed by PCR and the mutant was transfected into gastric cancer cells. The impact of COX-2 inhibitor and prostaglandin E2 (PGE2) on HERG current in gastric cancer cells transfected with or without HERG mutant was investigated by patch clamp. The effects of agonist and antagonist of cAMP and inhibitor of protein kinase A (PKA) on HERG current in gastric cancer cells transfected with or without HERG mutant were observed by patch clamp. 

**Results:** Transfection with COX-2 antisense vector did not alter the expression of HERG mRNA and protein, but it diminished the amplitude of HERG current in gastric cancer cells (p < 0.05). The cAMP concentration in gastric cancer cells transfected with COX-2 antisense vector was lower than that in parental gastric cancer cells (p < 0.05). COX-2 inhibitor and PGE2 had influence on the HERG current in gastric cancer cells. COX-2 inhibitor reduced the amplitude of HERG current in gastric cancer cells and PGE2 enhanced the amplitude. However, in gastric cancer cells transfected with HERG mutant deleting cAMP-binding domain, both COX-2 inhibitor and PGE2 did not show significant effects on HERG current. 

**Conclusion:** COX-2 inhibits HERG current by reducing the amplitude of HERG current. Both agonist and antagonist of cAMP had no significant effect on HERG current in gastric cancer cells transfected with HERG mutant deleting cAMP binding domain. PKA inhibitor did not influence the HERG current whether in parental gastric cancer cells or in gastric cancer cells transfected with HERG mutant.

**Key Word(s):** 1. gastric cancer; 2. COX-2; 3. HERG; 4. potassium channel;

**PR0454 Oncology Basic**

**The effect of HERG protein on the proliferation of gastric cancer cells**

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**Objective:** To investigate the effect of HERG protein on the proliferation of gastric cancer cells. 

**Methods:** HERG-siRNA vector was constructed and transfected into gastric cancer cells, followed by screening and verifying. After interfering with HERG current and protein by HERG-siRNA, the growth curve of gastric cancer cells was drawn by MTT method; the ability of clone formation of gastric cancer cells was studied by clone formation assay. 

**Results:** HERG-siRNA vector was constructed and transfected into gastric cancer cells successfully. The expression of HERG protein and HERG current in gastric cancer cells transfected with HERG-siRNA was decreased. HERG-siRNA inhibited proliferation of gastric cancer cells and reduced clone formation ability of gastric cancer cells (P < 0.05). 

**Conclusion:** HERG-siRNA can inhibit proliferation and clone formation of gastric cancer cells. HERG protein is a potential target for gastric cancer biological therapy.

**Key Word(s):** 1. gastric cancer; 2. HERG; 3. potassium channel; 4. proliferation;

**PR0455 Oncology Basic**

**CD24, an early event of carcinogenesis, induces gastric cancer progression via STAT3 activation**

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**Objective:** CD24 is associated with invasiveness and poor prognosis in gastric cancer (GC), but the mechanism remains uncertain. 

**Methods:** Surgery or biopsy samples from various stages of human GC tumorigenesis were analyzed using immunohistochemistry. Two GC cell lines and one normal gastric epithelial cell line were used. Differential expressions were validated by real-time PCR and Western blot, and functional studies were performed after transfection of siRNA or lentiviruses. A subcutaneous xenograft mouse model was used for in vivo efficacy. 

**Results:** we determined that the expression of CD24 gradually increased in the multistage process of gastric carcinogenesis. The knockdown of CD24 induced significant apoptosis in GC cells via the mitochondrial apoptotic pathway. CD24 may also initiate EMT in GC, as the knockdown of CD24 increased fibronectin expression and decreased E-cadherin and vitamin D receptor (VDR) expression in GC cells. The signal transducer and activator of transcription 3 (STAT3), may mediate CD24-induced GC survival and EMT. Moreover, CD24 promoted GC progression and STAT3 activation in tumor xenografts both in vivo and in primary GC tissues. 

**Conclusion:** CD24 overexpression is an early event in GC carcinogenesis and may promote GC progression by suppressing apoptosis and inducing EMT via STAT3 activation.

**Key Word(s):** 1. CD24; 2. early event; 3. gastric cancer; 4. STAT3;
**PRO0456**

**Oncology Basic**

**Screening the serum biomarker of gastric cancer and verification of differential proteins**

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**Objective:** TO analysis serum proteomics of intestinal metaplasia patients, dysplasia patients, gastric cancer patients and normal control population, screen serum differential proteins involving in the genesis and development of gastric cancer, and search for specific marks of gastric cancer early diagnosis.  
**Methods:** The serum were collected from intestinal metaplasia patients, dysplasia patients, gastric cancer patients and normal control population, whose clinical and pathological data were complete, the total number were 54 cases, intestinal metaplasia patients, gastric cancer patients and normal control population were 15 cases, respectively, and dysplasia patients were 9 cases. High-abundance proteins proteins in the serum were removed by immune-chromatography assay, Isobaric tags for relative and absolute quantitation (iTRAQ) coupled with two-dimensional liquid chromatography/tandem mass spectrometry (2D-LC-MS/MS) were used to analyze and identify the proteins expression of between four groups. The samples of intestinal metaplasia group, dysplasia group, gastric cancer group and normal control group were labeled with iTRAQ reagent 117, 119, 116, and 118, respectively. The samples were detected by cation exchange chromatography (SCX) and reversed phase chromatography (RP), Protein Pilot 4.2 were used to deal with the results of peptides mass spectrometry, and quantitative and quantitative identified various protein. Serum differential proteins involving in the genesis and development of gastric cancer were screened, ratio >1.6 or ratio <0.625 and P-Value < 0.05 as an approximate benchmark for variation in protein expression. Bioinformatics was used to analysed the serum differential proteins.  
**Results:** This iTRAQ coupled with 2D-LC-MS/MS proteomics analysis led to the identification of a total of 10540 unique peptides, which correspond to a set of 199 proteins. ratio >1.6 or ratio <0.625 and P-Value < 0.05 as an approximate benchmark for variation in protein expression. Compared with normal control population, seventeen serum differential proteins, including twelve proteins expression were up-regulated and five proteins expression were down-regulated in gastric cancer patients were screened; two serum differential proteins were up-regulated in dysplasia patients were screened; eight serum differential proteins, including seven proteins expression were up-regulated and one proteins expression were down-regulated in intestinal metaplasia patients; one serum differential proteins was up-regulated both in gastric cancer patients and dysplasia patients; one serum differential proteins was up-regulated and one serum differential proteins was down-regulated both in gastric cancer patients and intestinal metaplasia patients; one serum differential proteins was up-regulated both in dysplasia patients and intestinal metaplasia patients, whereas there was any serum differential proteins was screened between this there types of patients. According to the biological function, all of the differential proteins were comprised immune related protein, lipid transport and metabolism protein, transportation and storage protein, cell adhesion and movement protein, energy metabolism and coagulation-related protein.  
**Conclusion:** In the present study, serum proteomics data of intestinal metaplasia, dysplasia and gastric cancer were constructed, the differential proteins could be used for research as a new potential biomarker in gastric cancer, and provide new clues to discover the molecular mechanism of gastric cancer genesis development.

**Key Words:** 1. gastric cancer; 2. serum proteomics; 3. iTRAQ; 4. D-LC-MS/MS;

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**PRO0457**

**Oncology Basic**

**Expression and clinical significance of S100A11 and beclin1 in gastric carcinoma**

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**Objective:** To study the expression of S100A11 and Beclin1 in gastric carcinoma, precancerous lesion and chronic nonatrophic pangastritis, and the relationship between S100A11 and Beclin1 expression in gastric cancerous tissues and the biological behaviour of gastric carcinoma, investigate the mechanism and clinical significance of S100A11 and Beclin1 in the development of gastric carcinoma.  
**Methods:** The expression of S100A11 and Beclin1 proteins were determined by streptavidin-peroxidase immunohistochemical method in 50 cases of gastric carcinoma from exaeresis tissues, 30 cases of precancerous lesion and 20 cases of chronic nonatrophic pangastritis from endoscopic biopsy. Pathological image analysis system be used to analysis the grey level of S100A11 and Beclin1, then analyze the mechanism and clinical significance of S100A11 and Beclin1 in the development of gastric carcinoma.  
**Results:** The positive expression grey level of S100A11 in gastric carcinoma was 132.9209 ± 5.649, and in precancerous lesion tissues was 133.6706 ± 5.8348, both of them were significantly lower than that of in chronic nonatrophic pangastritis tissues (138.048 ± 3.5902), There were significant difference between the gastric carcinoma and chronic nonatrophic pangastritis tissues, precancerous lesion tissues and chronic nonatrophic pangastritis tissues (P < 0.05). But there was no difference between the gastric carcinoma and precancerous lesion tissues (P > 0.05). There was obvious correlation between the expression of S100A11 and the clinicopathological factors, such as grading, infiltrating depth, lymph nodes metastasis, TNM degree (P < 0.05), but there was no correlation between the expression of S100A11 and position, knubbly diameter (P > 0.05). The positive expression grey level of Beclin1 in gastric carcinoma was 140.9705 ± 6.2019, which was significantly higher than those in precancerous lesion tissues (136.711 ± 5.5759) and in chronic nonatrophic pangastritis tissues (130.8024 ± 2.5363), there were significantly differences between two of the three tissues (P < 0.05). There was correlation between the expression of Beclin1 and grading, lymph nodes metastasis (P < 0.05), but there was no correlation between the expression of Beclin1 and position, diameter, infiltrating depth, TNM degree (P > 0.05). There existed a negative correlation between S100A11 and Beclin1 in gastric carcinoma (r = 0.136, P < 0.05).  
**Conclusion:** S100A11 highly expressed in gastric carcinoma, there was obvious expression correlated between the expression of S100A11 and the clinicopathological factors, such as grading, infiltrating depth, lymph nodes metastasis, TNM degree, Beclin1 lowly expressed in gastric carcinoma, and there was no correlation between the expression of Beclin1 and grading, lymph nodes metastasis, There existed a negative correlation between S100A11 and Beclin1 in gastric carcinoma, indicating that the unbalance of S100A11 and Beclin1 is one of the possible molecular biological mechanisms of gastric carcinoma development.

**Key Words:** 1. Gastric carcinoma; 2. S100A11; 3. Beclin1;
Objective: Construct β-catenin miRNA expression vector to study the relationship of hypoxia-inducible factor-1α and the Wnt/β-catenin signal pathway. Explore HIF-1α can regulate the proliferation and invasion of gastric cancer cell line SGC-7901 through the signalling pathway

Methods: SGC-7901 cell lines was transfected with β-catenin miRNA plasmid, and establish stable transfection with targeted interference of β-catenin. RT-PCR analysed the interference effect of stably transfected cell lines. The biological characteristics of the control group, liposome group, negative control group, interference group and double interference group were tested by Doubling time, colony, flow cytometry, and Invasion assay. Then, there were six groups: control group, hypoxia group, double hypoxia group, control RNA interference group, hypoxia RNA interference group, double hypoxia RNA interference group. RT-PCR and Western blotting were used to evaluate changes in HIF-1α, β-catenin, CyclinD1, MMP-7 mRNA and protein levels in the six groups. Results: The gastric cancer SGC-7901 cell line of stability interfered the β-catenin which was constructed Successfully. Control group, negative control group, liposome group were not statistically significant. The growth, proliferation of RNA interference group slowed down, the cell cycle were arrested in G1 phase, S phase reduction was statistically significant. Hypoxia group and double hypoxia group, HIF-1α, the β-catenin, CyclinD1, MMP-7 protein and mRNA expression was elevated; used RNAi technology targeting with β-catenin, HIF-1α, β-catenin, CyclinD1, MMP-7 protein and mRNA expression of hypoxia interference group and double hypoxia interference group were significantly reduced Conclusion: HIF-1α and β-catenin maybe control each other. Hypoxic environment can as the agonist which increased the HIF-1α, IF-1α can stimulate the activation of Wnt / β-catenin signalling pathway, it can act on its downstream gene and promote proliferation and invasion of gastric cancer

Key Word(s): 1. HIF-1 alpha; 2. beta-catenin; 3. CyclinD1; 4. MMP-7;
the first time demonstrated that the ABCG2 is capable of protecting HEK293 cells (human embryonic kidney epithelial cells 293) from ROS (Reactive oxygen species)-mediated cell damage and death. In normal circumstances, ABCG2 protect gastrointestinal epithelium cells from toxins and loss of ABCG2 in local intestinal tract might lead to the carcinogenesis of colorectal cancer. Since ABCG2 and oxidative stress is closely related to bilogical characteristics of colorectal cancer, we hypothesize that ABCG2 may reduce oxidative stress and inhibit the malignant behaviour of colorectal cancer. NF-κB signaling pathway may be involved in the effects of ABCG2.

Methods: Immunohistochemistry (IHC) was applied to examine the protein expression of ABCG2 and NF-κB in 21 colorectal carcinoma specimens and 21 normal colorectal epithelial specimens from Drum Tower Hospital Affiliated to Medical School of Nanjing University. RT-PCR and Western blot were used to test the ABCG2 expression level in four different colorectal cancer cell lines (LoVo, HT-29, Caco-2, Sw480) and LoVo cells which were confirmed to have no ABCG2 overexpression were selected to do the following ABCG2 overexpression experiments. The construction and cloning of ABCG2-pEGFP-C1 recombinant plasmid were followed the manufacturer’s protocols and the recombinant plasmid was identified by restriction enzyme test and sequencing. The expression of cloned ABCG2 in transfected LoVo cells transient transfected with Lipofectamine 2000 was examined by Western blotting and Immunocytochemistry. The effects of ABCG2 on the ROS production induced by hydrogen peroxide (H2O2) were monitored by ROS assay. The effects of ABCG2 on the viability of H2O2-treated cells were measured using propidium iodide (PI) assay following manufacturer’s instructions. All the data were analyzed with SPSS 16.0 statistical software package. The comparison between the two samples was analyzed by Student t-test and multiple samples were compared by one-way ANOVA. Correlation analysis (Pearson and Spearman correlation coefficients) was used to evaluate statistical relationships among the candidate proteins and with clinicopathology and potential risks. p < 0.05 is considered as statistical significance. Results: The positive rate of ABCG2 protein expression in colorectal carcinoma was 67.7% in clinic pathological samples. Overexpression of ABCG2 was significantly associated with lymph node metastasis, clinical stage, and Dukes stage (p < 0.05), but was not correlated with patient’s gender, age, tumor location, tumor differentiation degree and size, depth of invasion, vascular and nerve invasion or distant metastasis. NF-κB expression was significantly increased in colorectal carcinoma samples as compared to normal colorectal epithelial. Overexpression of NF-κB was not correlated with patient’s clinicopathological parameters, however, overexpression of ABCG2 and NF-κB were significantly correlated (r = 0.686, p = 0.001). ABCG2-pEGFP-C1 recombinant plasmid was successfully obtained and identified by restriction enzyme test and sequencing. These confirmed correct sequence of the plasmid and the cloned gene. ABCG2 was over-expressed in LoVo cells at 48 h post-transfection, which was confirmed by Western blot. The transfection efficiency of the plasmid using Lipofectamine 2000 was about 50% confirmed by immunostaining. The cells at 48 h post-transfection expressed high levels of ABCG2 and were used for further experiments, and this time point was set as 0 h for subsequent H2O2 treatments or other tests. ROS assay showed that H2O2 (10, 50 μM; 6 h) can strongly induce ROS activity in LoVo cells (p < 0.05) and ABCG2 inhibited ROS activation remarkably (p < 0.05). The exposure of H2O2 (2, 10, 50 μM; 2, 6, 16 h) resulted in significantly increased cell death compared to vehicle treatment (H2O) as detected by PI assay (p < 0.001). Overexpression of ABCG2 decreased H2O2-induced (10 μM; 6 h) cell death as compared to cells transfected with a pEGFP-C1 empty vector and treated with H2O2 (p < 0.001). Conclusion: High expression of ABCG2 and NF-κB were found in colorectal carcinoma clinic samples and they are dramatically related with each other. ABCG2 correlated closely with lymph node metastasis, clinical stage, and Dukes stage. The interaction between ABCG2 and NF-κB may be involved in the development of colorectal carcinoma. In vitro study shows ABCG2 can protect colorectal cells from ROS-induced cell damage by inhibiting ROS activation. Therefore, these findings may provide a new potential effect of ABCG2 in colorectal cancer besides multidrug resistance and these mechanisms of ABCG2 need be further explored.

Key Word(s): 1. ABCG2; 2. NF-κB; 3. ROS; 4. colorectal carcinoma;
TFF3 in MKN45 cells (p < 0.05) and inhibit the expression of TFF1. In the combination of these two agents, PGL significantly can inhibit the expression of TFF1, TFF3 stimulated by Gas-17 (p < 0.05). Conclusion: Gas-17 would promote cell proliferation in human gastric cancer line MKN45 and inhibit the expression of TFF1, strengthen the expression of TFF3. Its antagonist PGL significantly blocked and inhibited the role. The expression of TFF1 were down-regulated and TFF3 was up-regulated may be the reason of Why Gas-17 play a key role in the development of gastric carcinoma.

Key Word(s): 1. gastrin-17; 2. trefoil factor1; 3. trefoil factor3; 4. gastric cancer;

PR0464 Oncology Basic
Regulation of AKT gene expression by cisplatin
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Objective: To investigate the mechanisms of the biological roles of ROS that produced by cisplatin up-regulation of Akt expression in colon cancer cells. Methods: Human colon cancer cell lines, i.e., HCT-116, SW480 were used. The measurement of ROS production was performed by flow cytometry. Cell proliferation assay, hoechst 33258 assay and flow cytometric analysis of annexin V-FITC/PI staining were performed on CDDP and CDDP/NAC treatment. Realtime polymerase chain reaction, Chromatin Immunoprecipitation (ChIP) Assay and Western blotting were performed to determine the mRNA and protein expression levels of Akt1, respectively. Results: The ROS and Akt expressions in colon cancer cells were significantly associated with cisplatin in concentration. Akt down-regulation reduced colon cancer proliferation and increased cell apoptosis. The chemosensitivity of colon cancer cells to cisplatin increased significantly following the downregulation of Akt expression, which might be associated with the inactivation of the JAK2/STAT3 pathway, followed by inhibited the ROS that produced by cisplatin, as indicated by increased expression of the Bax protein and downregulated Bcl-2 protein. Conclusion: The inhibition of ROS decreased the level of AKT in colon cancer cell lines. The JAK2/STAT3 pathway mediates AKT expression, which represents a potential target for overcoming cisplatin resistance in human tumor in the future.

Key Word(s): 1. akt; 2. ROS; 3. Chemoresistance; 4. Colon Cancer;

PR0465 Oncology Basic
The incidence of lymph node metastasis in cases of early gastric signet ring cell carcinoma
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Objective: With the increased detection of early gastric cancer (EGC) and the technical advances of endoscopic submucosal dissection (ESD), the indication for ESD have been extended to those patients with signet cell carcinoma (SRCC). We compared the endoscopic and clinicopathologic characteristics of early gastric SRC with those of non-signet ring cell carcinoma (NSRCC). Methods: We retrospectively investigated the medical records of 114 patients who were diagnosed with early SRCC by the pathologic findings after gastrectomy with lymph node dissection from January 2003 to September 2011. We analyzed the clinical, endoscopic and histopathologic characteristics, as compared with those of the patients with early NSRCC (n = 582). We also analyzed the three subgroups of cell differentiation, as compared with that of early SRCC. Results: The patients with EGC with a signet ring cell histology showed a higher frequency of females, younger age, and predominant mid-third location. SRCC had lower rate of submucosal invasion and lymph node metastasis than NSRCC. In addition, rates of submucosal invasion and lymph node metastasis were not statistical different between SRCC and well differentiated adenocarcinoma. There was no lymph node metastasis when it was an intramucosal cancer of less than 20 mm and without lymphovascular invasion. Conclusion: Early SRCC showed significantly lower incidence of submucosal invasion and lymph node metastasis than NSRCC. The clinical results were not inferior to those of well-differentiated adenocarcinoma group. Intramucosal gastric SRCC of less than 20 mm and without lymphovascular invasion can be considered as a candidate for ESD. Key Word(s): 1. lymph node metastasis; 2. signet ring cell;

PR0466 Oncology Basic
Clinical analysis of 49 cases of digestive tract carcinoid
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Objective: To summarize the clinical characteristics of carcinoid tumours in digestive tract. Methods: The clinical data of 49 cases with digestive tract carcinoid were analyzed restrospectively from May 2004 to December 2011 in the first affiliated hospital of GuangXi Medical University. Results: The proportion of male and female was 0.88:1. The high-risk age was 40–60 years old. The most common location was rectum. The main manifestations were abdominal pain, diarrhea and hemorrhage of digestive tract. The morphology characteristics of endoscopy were bumps, a few were sunken lesions. Endoscopic ultrasonography (EUS) showed hypoechoic nodules in the mucosal and submucosal layer. Syn had the highest positive rate of immunochemical staining, witht was 91.67%, the positive rate of NSE and CgA were 76.47% and 72.72%. Relactive risk factors for metastasis were the tumor size and the depth of invasion. The tumor size affected the depth of invasion. Seven of all the cases accepted
PR0467
Oncology Basic
Suppressed TF by antisense TF inhibited gastric cancer growth in vitro and in vivo
Presenting Author: JING ZHANG
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Objective: Tissue factor (TF) primary function is to activate the clotting cascade. TF is expressed by tumor cells and contributes to a variety of pathologic processes, such as thrombosis, metastasis, tumor growth, and tumor angiogenesis. To explore the roles of TF, we used stable transfect antisense TF (anti-TF) technology to silence TF in gastric cancer cell line SGC7901 with high level expression of TF and detection antitumor effects in vitro and in vivo. Methods: Antisense TF designed for human TF was stable transfected into SGC7901 cells. The expression of TF was detected by reverse transcription PCR and western blot. Cell proliferation was measured by MTT assay. Cell apoptosis was assessed by flow cytometry. The metastatic potential of SGC7901 cells was determined by wound healing, transwell assays. In vivo the effect of anti-TF on the growth of gastric cancer xenografts in nude mice was detected.

Results: Anti-TF can reduced the TF expression mRNA and protein in the SGC7901 cells. Reduce the TF in SGC7901 cells resulted is suppression of cell proliferation, invasion and metastasis induced cell apoptosis. Intratumoral injection of stable transfect anti-TF gastric cancer cells suppressed the tumor growth in vivo model of gastric cancer. Conclusion: Inhibited of the TF using antisense could provide a potential approach for gene therapy against gastric cancer.

Key Word(s): 1. gastric cancer; 2. tissue factor; 3. gene therapy;

Fig 9. Suppressed TF with anti-TF inhibited the tumor growth (volume and weight) of gastric cancer cells in nude mice.

PR0468
Oncology Basic
Lgr5+ primary human gastric cancer stem cells
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Objective: Cancer stem cell (CSC) was proposed to fuel the malignant and metastatic growth gastric cancer (GC), one of the most common malignancies of the digestive tract. However, the identity of this critical subpopulation of GC cells in primary human gastric cancers remains elusive. Methods: we show that Lgr5, a well-established stem cell marker of the gastrointestinal epithelium, was expressed in GC tissue. Results: Using an optimized culture system for pyloric gland stem cells, Lgr5 was demonstrated to identify tumorsphere initiating GC cells that showed extensive self-renewing ability. Lgr5+ cells were endowed with multilineage potential both in vitro and in vivo, even at single cell level. Lgr5+ cells enriched robust tumor initiating capacity which could be maintained upon serial transplantation in NOD/SCID mice. Importantly, knockdown of Lgr5 attenuated self-renewal of tumorigenicity of gastric CSC, through a mechanism involving downregulation of Wnt/β-catenin signaling. Conclusion: These results provided evidences for the first time that Lgr5 marked and sustained self-renewing and tumor propagating cells in GC, which might facilitate development of novel therapeutic modalities for GC.

Key Word(s): 1. Gastric Cancer; 2. Cancer Stem Cells; 3. Lgr5; 4. Wnt signaling;

PR0469
Oncology Basic
The study on apoptosis of human colorectal carcinoma Caco-2 cells induced by norcantharidin
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Objective: Norcantharidin (NCTD) is a new synthetic antitumor drug with low toxicity, extracted from the traditional Chinese medicine. Smac is a novel pro-apoptotic protein. To explore the effect of apoptosis of human colorectal carcinoma Caco-2 cells and the expression of Smac protein induced by norcantharidin, for providing reliable evidence for clinical application. Methods: Caco-2 cells of human colorectal carcinoma were cultured by cell culture technique. Cellular proliferation activities were assayed by MTT. The apoptosis of cells was assayed by flow cytometry. The expression of Smac protein was detected by Western blot after stimulation by norcantharidin. Results: NCTD inhibited the growth and proliferation of Caco-2 cells in a dose and time dependent manner, with an IC50 value of 59.37 μg/ml at 36 h. The apoptosis rates of Caco-2 cells after stimulation by norcantharidin were higher than control groups (P < 0.01). The expression of Smac protein increased from 0.147 ± 0.028 to 0.726 ± 0.060 at 36 h after NCTD treated cells (P < 0.01). Conclusion: This study shows the inhibition of NCTD on Caco-2 cells. The expression of Smac protein increased after NCTD treated cells. The mechanism of NCTD antitumor may be related to Smac, the key factor of cell apoptosis signaling pathway.

Key Word(s): 1. Norcantharidin; 2. Colorectal carcinoma; 3. Livin; 4. Caspase-3;
**PR0470 Oncology Basic**

**HIF-1alpha induces expression of VE-cadherin and modulates vasculogenic mimicry in ESCC cells**

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**Objective:** Vasculogenic mimicry (VM) describes the unique ability of highly aggressive tumor cells to express endothelial cell-associated genes (such as EphA2 and VE-cad) and form ECM-rich, patterned tubular networks when cultured on a three-dimensional matrix. However, the exact mechanism underlying of VM still needs to be unraveled. This study contributes new observations demonstrating that hypoxia inducible factor-1alpha (HIF-1α) can increase the expression of EphA2 and LN5γ2 by up-regulating VE-cadherin expression in esophageal cancer cells during formation of VM. **Methods:** Two esophageal cancer cell lines Eca109 and TE13 were transfected by plasmid harboring small interfering RNA targeting for HIF-1α or VE-cadherin. The formation of tubular networks of Eca109 and TE13 cells was analyzed by three-dimensional culture in vitro. The relationship of the expression of HIF-1α and VE-cadherin, EphA2, LN5γ2 was measured by western blot and Realtime PCR. **Results:** Both Eca109 and TE13 formed typical tubular networks. The number of tubular networks remarkably decreased when HIF-1α or VE-cadherin was knocked down. The expressions of VE-cadherin, EphA2 and LN5γ2 were dramatically inhibited in HIF-1α-silencing cells. When VE-cadherin was knocked down, EphA2 and LN5γ2 expression decreased, while HIF-1α expression had no change. Furthermore, HIF-1α knockdown inhibits VM structure formation and the tumorigenicity in vivo. HIF-1α may accommodate the ability of forming vasculogenic mimicry in esophageal squamous cell carcinoma by regulating VE-cadherin, which affects VM formation through EphA2 and LN5γ2. **Conclusion:** HIF-1α up-regulation of VE-cadherin may be a critical molecular event involved in the vasculogenic mimicry and esophageal squamous cell carcinoma formation.

**Key Words:** 1. HIF-1alpha; 2. VE-cadherin; 3. vasculogenic mimicry; 4. esophageal carcinoma;

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**PR0472 Oncology Basic**

**Inhibition of human esophageal cancer growth by cytokine-induced killer cells in xenograft nude mice**

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**Objective:** Therapies for esophageal cancer primarily rely on surgery and radiotherapy. But the prognosis is poor in patients with advanced stage. Previous reports have suggested that treatment with cytokine-induced killer (CIK) cells may benefit patients with various types of tumor. However, CIK-based immunotherapy is rarely used in those patients. In this study, effects of CIK cells against human esophageal squamous cancer were evaluated in vitro and in vivo. **Methods:** CIK cells were generated routinely from human peripheral blood mononuclear cells (PBMCs) in the presence of CD3, IFN-γ and IL-2 in vitro. The phenotype of CIK cells was analyzed by fluorescence-activated cell sorting. Cytotoxicity of CIK cells against esophageal cancer cell line TE3 was analyzed by MTT at different ratios of effector-target. HE staining was used to observe the distribution of CIK and tumor cells. Further, antitumor activity of CIK cells was examined in nude mouse xenograft model. Ten nude mice were injected with 6 × 10^6 TE3 cells subcutaneously. Five days later, CIK cells (5 × 10^7) (experiment group) or BPS (control group) was injected into nude mice intravenously once a week. **Results:** The CIK cell population contained 97.39% CD3+ and 39.8% CD56+ cells. At the effector-target cell ratio of 30:1, CIK cells killed nearly 50% of TE3 cells. HE staining showed CIK cells aggregated around TE3 cells when they were co-cultured. In nude mice model, tumor weight was reduced in CIK cells treated group compared with control group (0.21 ± 0.07 g vs. 0.53 ± 0.10 g, P < 0.05). Here, we provide evidences that CIK cells had an growth inhibition effect on esophageal squamous cells carcinoma in vitro and in vivo. **Conclusion:** CIK cells therapy may be a candidate choice for esophageal cancer patients. **Key Word(s):** 1. esophageal cancer; 2. immunotherapy; 3. CIK cells;
The polycomb group protein EZH2, which has histone methyltransferase (HMT) activity, has been increasingly studied recently. It was reported that EZH2 is involved in many processes such as cell cycle, apoptosis. However, whether EZH2 participates in the process of autophagy and its regulatory mechanism in CRC (colorectal cancer) remains unclear.

Methods: ZEB1, EZH2 and PTEN expression were measured by Western Blot and immunohistochemistry respectively. ZEB1, EZH2 and PTEN mRNA level were measured by real-time PCR. Transfection of ZEB1 siRNA, EZH2 siRNA and other plasmids were carried out by using Lipofectamine 2000. Chromatin Immunoprecipitation (ChIP) assay was performed using the ChIP assay system. Luciferase reporter gene assay was carried out using the ChIP assay system following the manufacturer’s protocol. Results: Knockdown of EZH2 induced the formation of autophagosomes in colorectal cancer cell lines HCT116 and SW620, which was evident on electron microscopy. Furthermore, Western Blot and real-time PCR data showed that ZEB1 and EZH2 may regulate the expression of PTEN, which plays a vital role in autophagy. Moreover, downregulation of ZEB1 significantly reduced the expression of EZH2. A highly inverse correlation between the expression of EZH2 and ZEB1 and that of PTEN was also revealed in CRC tissues compared with normal tissue in patients. Conclusion: we firstly revealed the impact of EZH2 on autophagy during CRC carcinogenesis. At the same time, we firstly identified that EZH2 expression may be regulated by ZEB1 in colorectal cancer. Our data may provide potential targets to prevent and/or treat aggressive colorectal cancer.

**Key Word(s):** 1. colorectal cancer; 2. autophagy; 3. EZH2; 4. PTEN;
array and illumina HiSeq 2000 technique were employed to analyze the differential expression of IncRNA in gastroenterological cancer and normal tissues. **Results:** The differentially expressed IncRNAs were found between cancer and normal tissue by HiSeq 2000 sequencing, including 367 known IncRNAs and 4371 novel IncRNAs in colorectal cancer, 598 known IncRNAs and 6892 novel IncRNAs in esophageal cancer, 700 known IncRNAs and 6372 novel IncRNAs in gastric cancer, 656 known IncRNAs and 10960 novel IncRNAs in hepatic cancer. Over 80 IncRNAs only expressed in gastroenterological cancer or matched normal tissues were validated by semi-quantitative RT-PCR. Further study indicates that IncRNAs play important roles in gastroenterological carcinogenesis. IncRNAs may serve as digestive system cancer markers. IncRNAs are emerging as new players in cancer acting as both tumor oncogenes and tumor suppressors. **Conclusion:** Based on altered expression and essential roles of these IncRNAs, IncRNAs may serve as novel diagnostic or prognostic biomarkers and therapeutic targets in gastroenterological cancer.

**Key Words:** 1. non-coding RNA; 2. LncRNA; 3. Gastric cancer; 4. Liver cancer;

**PR0476 Oncology Basic**

**Expressions of G3BP1 and G3BP2 proteins in colorectal cancer and their clinical significances**

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**Objective:** To investigate the expressions and significances of Ras-GTPase-activating protein SH3 domain binding protein (G3BP1) and G3BP2 proteins in colorectal cancer. **Methods:** The expressions of G3BP1 and G3BP2 proteins in 15 cases of normal tissues (normal group), in 30 cases of colorectal adenoma (adenoma group) and in 119 cases of colorectal cancer (cancer group), were detected by immunohistochemistry. The relationships between the 2 protein expressions and cancer patients’ age, gender, tumor location, type, lymph node metastasis, Dukes stage, and differentiation degree of colorectal cancer were also explored.

**Results:** (1) The positive expression rate of G3BP1 in normal group was 60.00% (9/15), in adenoma group was 70.00% (21/30), in cancer group was 87.39% (104/119). Cancer group were statistically significant than the normal group and the adenoma group (P < 0.05). Though adenoma group were higher than the normal group, adenoma group were not statistically significant than the normal group (P > 0.05). As the happening and development progress of cancer, its expression is gradually higher in normal group, adenoma group and cancer group. (2) The positive expression rate of G3BP2 in normal group was 66.67% (10/15), in adenoma group was 83.33% (25/30), in cancer group was 95.80% (114/119). Cancer group were statistically significant than the normal group and the adenoma group (P < 0.05). Though adenoma group were higher than the normal group, adenoma group were not statistically significant than the normal group (P > 0.05). As the happening and development progress of cancer, its expression is gradually higher in normal group, adenoma group and cancer group. (3) Both the degree of G3BP1 and G3BP2 expression were correlated with tumor histological type, tubuler adenocarcinoma were statistically significant than other cancer histological type (P < 0.05). But no relations were found between the expression of G3BP1 and G3BP2 and patients’ age, gender, tumor location, lymph node metastasis, Dukes stage, and differentiation degree. (4) During the three groups, the ratio of G3BP1 and G3BP2 is not statistically significant. The degree of G3BP1 expression in colorectal cancer was correlated positively with the degree of G3BP2 expression (rs = 0.425, P = 0.000). **Conclusion:** The expressions of G3BP1 and G3BP2 proteins in colorectal cancer were high, and there was a positive correlation between the high expressions of them in colorectal cancer. The high expressions of G3BP1 and G3BP2 proteins were correlated with tumor histologic type. As the happening and development progress of cancer, their expressions are gradually higher in normal group, adenoma group and cancer group. G3BP1 and G3BP2 may have synergetic effect on the happening and development progress of colorectal cancer.

**Key Words:** 1. Colorectal cancer; 2. G3BP1; 3. G3BP2; 4. Immunohistochemistry;

**PR0477 Oncology Basic**

**Hypoxia induces regulatory T cells in gastric cancer**

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**Objective:** Hypoxia is a condition to drive development of tumours including gastric cancer. However, a link between tumour hypoxia and tolerance mediated by Tregs in gastric cancer remains poorly understood. **Methods:** We investigated the expression of Tregs and HIF-1α in the tumor site of gastric cancer via immunohistochemistry. We investigated the TGF-β1 levels in gastric cancer cell lines under either hypoxic oroxic conditions. Then, we used an in vitro co-culture system to detect the underlying mechanisms for the development of Tregs. **Results:** Tregs and HIF-1α was found to be positively correlated in gastric cancer. Supernatants derived from gastric cancer cells under hypoxic condition induce Tregs significantly. **Conclusion:** Hypoxia promote induction of Tregs in gastric cancer.

**Key Words:** 1. Hypoxia; 2. Gastric cancer; 3. Regulatory T cells; 4. TGF-β1;

**PR0478 Oncology Basic**

**Suppression of cell growth and migration by blocking hedgehog signaling in gastric cancer cells**

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**Objective:** Previous studies suggest Hedgehog signaling is essential for gastric cancer, but the precise function of Hedgehog signaling in gastric cancer is still unclear. The aim of this study is to clarify the role of Hedgehog signaling in gastric tumorigenesis. **Methods:** The expressions of Hedgehog signaling key components in clinical samples of gastric tumorigenic sequential stages were detected by immunohistochemistry. The roles and regulatory mechanisms of Hedgehog signaling in human gastric cancer and normal gastric epithelial cells were investigated using multiple cell biological approaches and cDNA microarray analysis. **Results:** Hedgehog signaling was abnormal activated in a ligand-independent manner in the process of gastric tumorigenesis. Overexpression of Gli1 and poorexpression of Sufu were typical events in gastric cancer tissues. Gli1 overexpression was correlated with poor differentiated histology, advanced clinical stage, membrana serosa infiltration and lymph node metastasis in...
patients with gastric cancer. The data of mutiple cell biological assays showed human gastric cancer cells required active Hedgehog signaling for cell survival, proliferation, migration and colony formation. N-Shh treatment significantly enhanced cell migration and colony formation of gastric cancer cells. Moreover, the results of cDNA microarray analysis indicated after treatment of cycloamine or GANT61 (inhibitors of Hedgehog signaling), Differentially Expressed Genes (DEGs) in gastric cancer cells were enriched in apoptosis and MAPK pathway. Hedgehog pathway inhibitors suppressed gastric cancer cell growth via inducing apoptosis. Conclusion: These findings demonstrate vital role of activated Hedgehog signaling pathway in promoting gastric tumorigenesis and development. Hedgehog signaling pathway may be a target of gastric cancer therapy.

Key Word(s): 1. Hedgehog signaling; 2. gastric cancer; 3. Gli1; 4. cDNA microarray;

PR0479
Oncology Basic
MiR-148a/b function as tumor suppressors in gastric cancer by targeting PrPc
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Objective: MicroRNAs(miRNAs) are small non-coding RNAs (ncRNAs). Its control multiply processes. A number of miRNAs that are associated with gastric cancer have been identified to date. Based on literatures, we predicted the altered expression of miR-148a/b in gastric cancer, and may Play a critical Part in carcinogenesis. Our previous study showed that miR-148a/b were down-regulated in gastrointestinal cancer and miR-148a/b inhibit gastric cancer invasion and metastasis. PrPc may be a target of miR-148a/b. In the Present study, we try to unravel the function and mechanism of miR-148a/b in gastric cancer.

Methods:
1. The function of gastric cancer cells (MKN28, SGC7901) with overexpression of miR-148a/b was measured in proliferation, migration and invasion.
2. We analyzed the expression of miR-148a/b and PrPc mRNA in cell lines by qRT-PCR. Then we observed the PrPc mRNA and protein levels in MKN28 and SGC7901 cells with overexpression of miR-148a/b.
3. The relationship between miR-148a/b and PrPc expression was further investigated by in situ hybridization and immunohistochemistry in 90 cases of GC and matched adjacent normal tissues.
4. We constructed a luciferase reporter to test whether PrPc is a target of miR-148a/b.

Results:
1. According to the results of the MTT, clone formation, cycle and transwell assays, we found that the cells (MKN28, SGC7901) Which were infected with miR-148a/b-lentivirus had a significant proliferation, migration and invasion inhibition at different stage.
2. We analyzed the expression of miR-148a/b and PrPc in GC cell lines. The results showed a negative correlation between the levels of miR-148a/b and PrPc mRNA in these cells. Furthermore, we observed that PrPc mRNA and protein levels were decreased when miR-148a/b were overexpressed by miR-148a/b-lentivirus in MKN28 and SGC7901 cells.
3. The inverse relationship between miR-148a/b and PrPc expression was further confirmed by in situ hybridization immunohistochemistry in 90 cases of GC, in matched adjacent normal tissues.

4. Luciferase reporter assay showed that the luciferase activity in the Luc-PrPc-transfected cells was significantly decreased compared to the luciferase activity in the mutant and negative control cells (P < 0.05), suggesting that miR-148a/b reduced the luciferase activity of Luc-PrPc but had no effect on Luc-PrPc-mu.

Conclusion:
1. miR-148a/b were significant down-regulated in gastric cancer tissues. Ectopic expression of miR-148a/b inhibited tumor cell proliferation and metastasis.
2. PrPc may be a target gene of miR-148a/b.

Key Word(s): 1. gastric cancer; 2. microRNA; 3. miR-148a/b; 4. PrPc;

PR0480
Oncology Basic
Berberine inhibits growth, induces G2/M arrest and apoptosis in GIST882 cell line
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Objective: Berberine has been shown to possess anti-tumor activity against a wide spectrum of cancer cells. It inhibits cancer cell proliferation by inducing cell cycle arrest, at G1 and/or G2/M, and apoptosis. In this study, we aimed to determine whether berberine inhibits the cell proliferation and induces cell cycle arrest and apoptosis in human duodenal gastrointestinal stromal tumour GIST882 cell line. Methods: The GIST882 cell line were treated with different concentrations of berberine. MTT assay was used to determine the effect of berberine on the viability of these cells. The cell cycle arrest was detected through propidium iodide (PI) staining. The induction of apoptosis was determined via Annexin V-PI staining. Results: Berberine inhibited the viability of GIST882 cells in a dose-and time-dependent manner. The IC50 was found to be 85.54, 52.81, 41.32 μmol/L of berberine at 24 h, 48 h, 72 h, respectively. It also promoted cell cycle arrest at G2/M and induced apoptosis in a dose-and time-dependent manner. Conclusion: Berberine inhibits the cell proliferation and induces cell cycle arrest and apoptosis in human duodenal gastrointestinal stromal tumour GIST882 cell line.

Key Word(s): 1. Berberine; 2. GIST882; 3. cell cycle; 4. apoptosis;

PR0481
Oncology Basic
Changing trends in gastrointestinal malignancy in Indonesia: the jakarta experience
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Objective: Gastrointestinal cancers including esophageal cancer, gastric cancer, duodenal cancer and colorectal cancer, are the second leading cause of cancer-related mortality worldwide. Cipto Mangunkusumo National
Resistance to anti-angiogenic drugs is a major reason for presentation and identification and endothelial differentiation of gastric cancer stem-like cells isolation, classifying CSCs-vasculogenesis remains unclear. This study aims to isolate cancer stem-like cells (CSLCs) in gastric cancer SGC7901 cells and investigate CSLCs endothelial differentiation ability.

Methods: We examine retrospectively demography, location and pathological characteristics of 311 consecutive gastrointestinal cancer patients (28 esophageal cancer patients, 52 gastric cancer patients, 3 duodenal cancer patients and 228 colorectal cancer patients) including 193 males and 118 females who were admitted to Cipto Mangunkusumo National General Hospital during the year 2002–2006 compared to 331 consecutive gastrointestinal cancer patients (20 esophageal cancer patients, 45 gastric cancer patients, 20 duodenal cancer patients and 246 colorectal cancer patients) including 189 males and 142 females who were admitted during the year 2007–2011. The data were analyzed by using Chi square test, SPSS 17.0. Results: Colorectal cancer was the most prevalent gastrointestinal malignancy in both periods (73.3% vs 74.3%) followed by gastric cancer (16.7% vs 13.5%), esophageal cancer (9% vs 6.04%) and duodenal cancer (1% vs 6.04%). The prevalence of colorectal cancer in Indonesia was increased in the last decade. It could be due to better diagnosis as well as true increased in the frequency of the disease. In gastric cancer group, the mean age of cancer patients was shifted to the younger age (51.8 ± 12.53 vs 50.5 ± 12.51 years old; p < 0.01). There were some alterations in the proportion of histopathological characteristics of gastric cancer where adenocarcinoma were increased and signet ring cell carcinoma were decreased significantly (55.8% vs 71% and 21.2% vs 4.4%, p < 0.01). Further study is required to evaluate the role of H. pylori infection in this phenomenon. Although statistically were not significant, there were some changes regarding to a decrease of the proportion of male esophageal cancer patients, a decrease of the incidence of squamous cell carcinoma of the esophagus and an increase of adenocarcinoma of the esophagus. This changes might be related to the increase of GERD prevalence in Indonesia. The incidence of duodenal cancer seemed to be increased during the last decade. The change of lifestyle especially dietary intake might be responsible in this condition. Rectum was the most common location of colorectal cancer (56.1% in 2002–2006 and 53.2 in 2007–2011). Conclusion: Our study showed some changing trends in gastrointestinal malignancy in Indonesia regarding to age, demography, histopathology, and the location of the cancer from year 2002–2006 to the year 2007–2011. These changes possibly related to the changing trend in gastrointestinal diseases in the Asia-Pacific region, probably due to the change of the lifestyle and the role of H. pylori infection.

Key Words: 1. Changing trends; 2. Esophageal cancer; 3. Gastric cancer; 4. Colorectal cancer;

PR0482 Oncology Basic
Gastric cancer stem-like cells isolation, identification and endothelial differentiation
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Objective: Resistance to anti-angiogenic drugs is a major reason for recurrence and limited efficacy in gastric cancer. Cancer stem cells (CSCs) may be an important resource of tumor vessels, but the mechanism underlying CSCs-vasculogenesis remains unclear. This study aims to isolate cancer stem-like cells (CSCs) in gastric cancer SGC7901 cells and investigate CSCs endothelial differentiation ability.

Methods: GFP positive SGC7901 cells were inoculated with vincristine (VCR), rEGF and hFGF in ultra-low-attachment plates to induce CSCs. Spheroid colony formation assay, plate clone formation assays, differentiation assays, self-renewal assay were conducted to verify the CSLCs. Western blot, immunofluorescence, real-time PCR were adopted to validate the endothelial phenotype of CSLCs in medium containing VEGF. Tube-forming assay were used to test the endothelial functional features. Immunohistochemistry staining using human specific endothelia markers was done to investigate the differentiation ability of CSLCs in vivo.

Results: We found that the VCR-preconditioned cells had significant spheroid formation compared with SGC7901. Differentiation ability and self-renewal property were proved by 2D matrigel differentiation assay and PKH-26 assay.

Moreover, obvious asymmetric ability of CSLCs was observed comparing with its parent cell line SGC7901. Tumorigenesis in vivo suggest that CSLCs have much higher oncogenicity than SGC7901. Further results of western blot, RT-PCR and immunofluorescence found that human specific CD31 and CD34 were significantly upregulated in CSLCs cultivated in M200, a normal endothelial condition medium. Besides, the M200 cultivating CSLCs formed vessel-like-tube in tube-forming assay, which wasn’t observed in SGC7901. This indicated the CSLCs partly possessed endothelial cell function. Finally, immunohistochemistry of xenografts in nude mice stained with human specific CD31 and CD34 showed that CSLCS-derived tumors contained human vessels, while SGC7901 derived tumors didn’t.

Conclusion: This study uncovered a novel mechanism of gastric angiogenesis derived from CSCs and may provide a new biological way in anti-angiogenic therapy of gastric cancer.

Key Word(s): 1. gastric cancer; 2. cancer stem cells; 3. endothelial cells; 4. differentiation;

PR0483 Oncology Basic
Fas signaling induces cancer stem cell generation by activated ERK1/2 signaling pathway in colorectal cancer
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Objective: Fas signaling was reported to participate in cell apoptosis. However, this pathway has also been reported to induce epithelial-mesenchymal transition (EMT). EMT has been reported to be simultaneously associated with cancer stem cell (CSC) generation, leading to the hypothesis that Fas signaling may induce the obtainment of cancer stem cell characteristics. Methods: The effects of Fas-ligand (FasL) treatment on colon cancer cells were tested using CCK-8 assay, soft agar assay, sphere formation assay, flow cytometry, immunoblot and immunofluorescence analyses.

Results: Low-dose of FasL (12.5 ng/ml) didn’t effect the proliferation rate of colon cancer cells SW480. Fas signaling enhanced the clone-forming ability and stem-cell characteristics in colorectal cancer cell line SW480 combined with unregulated expression of stem-cell related surface markers as well as transcriptional factors, all of which indicating enhanced CSC generation. The ERK1/2 pathway was activated by Fas signaling and is required for FasL-induced CSC generation.

Conclusion: Altogether, these data indicate that Fas signaling may induce CSC generation through the activation of ERK1/2 pathway in colorectal cancer cell line SW480.

Key Word(s): 1. Fas signaling; 2. cancer stem cell; 3. colorectal cancer;
PR0484 Oncology Basic Expression of subtypes of TRPC and CHRM in human gastrointestinal stromal tumors

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Objective: To compare the expression levels of transient receptor potential channel (TRPC) and cholinergic muscarinic acetylcholine receptor (CHRM) in human gastrointestinal stromal tumors (GISTs).

Methods: Immunohistochemical staining was applied to detect the expression of TRPC and CHRM in clinical specimens of GISTs. Results were evaluated using Pearson’s correlation and a multivariate analysis.

Results: Expression of TRPC1, TRPC3, CHRM2 and CHRM3 subtypes was determined in GISTs (57.5%, 47.5%, 22.5%, 55.0%). With the increase of tumor malignancy, the expression levels of TRPC and CHRM decreased respectively (P < 0.05).

Conclusion: GISTs express TRPC1, TRPC3, CHRM2 and CHRM3 subtypes, providing a new evidence for the origination of GIST from interstitial cells of Cajal (ICCs) GISTs may maintain part of structures of ICCs for mediating neurotransmitter functions in gastrointestinal motility.

Key Word(s): 1. GIST; 2. ICC; 3. TRPC; 4. CHRM;

PR0485 Oncology Basic Chemopreventive effects of berberine on intestinal tumor development in APCmin/+ mice

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Objective: Berberine, an isoquinoline plant alkaloid, has shown antineoplastic effects on a variety of cancer cells in vitro. The aim of this study was to investigate chemopreventive effects of berberine on intestinal tumor development in APCmin/+ mice.

Methods: Four-week old APCmin/+ mice were treated with 0.05% or 0.1% berberine in drinking water for twelve weeks. Parameters of intestinal tumor development, cell proliferation and apoptosis, and tumor promoting signaling pathways were determined.

Results: The total number of the intestine tumor in the untreated group (30.63 ± 1.69) was decreased by 39.6% by 0.05% berberine treatment (11.50 ± 2.05). All sizes of tumors (2 mm, 1–2 mm, and <1 mm) were significantly reduced in both berberine treatment groups. In 0.1% berberine-treated group, tumors in proximal, middle, distal segments of small intestine were significantly reduced (57.5%, 55.3%, and 76.5%, and the percentage of PCNA and Ki-67 positive cells were decreased by 32% and 55%, respectively. Expression of cyclin D1 was also decreased. Apoptotic cell number was increased by 32% and 55%, respectively. Ki-67 positive cells were decreased by 32% and 55%, respectively. Expression profiles, and Wnt and EGFR pathways may be involved. Furthermore, berberine treatment suppressed β-catenin and epidermal growth factor receptor activation, and down-regulated the expression of cyclooxygenase-2 and prostaglandin E2 production.

Conclusion: Berberine can inhibit intestinal tumor development in APCmin/+ mice, which is associated with its activity against tumor cell proliferation and induction of apoptosis, indicating its translational potential against intestinal tumor.

Key Word(s): 1. berberine; 2. intestinal neoplasms; 3. signaling pathways; 4. APCmin/+ mice;

PR0486 Oncology Basic The effects of decitabine on HoxD10-caspase3-mediated apoptosis and proliferation of gastric cancer cell line

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Objective: This study was designed to investigate the relationship between the dose-time and anti-tumor effect of DNA methyltransferases (DNMTs) inhibitor decitabine in human gastric cancer cell line MKN45.

Methods: Human gastric cancer cell line MKN45 was treated with a dose range (0–20 μmol/L) of decitabine for 48, 72 and 96 hours, respectively. Flow cytometric analysis of Annexin V-FITC/PI staining and CCK8 assays were used to study apoptosis and proliferation in MKN45 cells. RT-PCR and Real-Time PCR were used to examine the expression of Homeobox D10(HoxD10) at the mRNA levels. Cleaved-caspase3 expression was determined by Western blot.

Results: (1) Annexin V-FITC/PI staining showed that decitabine induced apoptosis of MKN45 in a time-dependent manner. The maximal amount of proapoptosis effect (17.37 ± 1.10%) was detected at 96 h with 20 μmol/L decitabine. (2) Decitabine was an effective inhibitor of MKN45 proliferation and the effect was time-dependent. A decitabine concentration of 20 μmol/L accounted for the inhibition of cell proliferation of 59.96 ± 4.28% at 96 hours. (3) The mRNA expression of HoxD10 in gastric cell line MKN45 was markedly downregulated than that in normal gastric epithelial cell line GES1. Decitabine could induce HoxD10 reexpression in a time-dependent manner through demethylation effect in MKN45 cells. (4) Cleaved-caspase3 was activated significantly with decitabine treatment comparing to the controls. Conclusion: Our results demonstrated that decitabine exert proapoptotic and growth inhibition effects in human gastric cancer cell line MKN45 in a time-dependent manner. Reexpression of tumor suppressor gene HoxD10 and cleaved-caspase3 activation contributed to the apoptosis of MKN45 cells. DNA methylation plays an important role in gastric cancer progression.

Key Word(s): 1. Decitabine; 2. Gastric cancer; 3. anti-tumor; 4. Metylation;

PR0487 Oncology Basic NS1 is the key molecular of parvovirus B19 in human colorectal cancer

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Objective: The aim of this study was to find clues to further study the pathogenic mechanisms of parvovirus B19 in human colorectal cancer.

Methods: Plasmids containing the VP1, VP1 or NS1 protein of parvovirus B19 were constructed and transfected into primary human colorectal epithelial cells and Lovo cells. Differential gene expression was detected using a human genome expression array. Gene functional annotation analyses were done using DAVID Bioinformatics Resources v6.7.

Results: Gene ontology analyses found that important VP1-related functions were immune response, immune system process, defense response, and response to stimulus, while important NS1-related functions were organelle fission, nuclear division, mitosis, M phase of mitotic cell cycle,
mitotic cell cycle, M phase, cell cycle phase, cell cycle process, and cell division. Pathway expression analysis identified that VP1-related pathways included cell adhesion molecules (CAMs), antigen processing and presentation, cytokines and inflammatory response, and the. Important NS1-related pathways were cell cycle, pathways in cancer, colorectal cancer, Wnt signaling pathway, and focal adhesion. Of detected differential genes, 12 genes participated in the pathway in cancer and 6 genes participated in the pathway in colorectal cancer. Conclusion: Gene ontology analyses found that important VP1-related functions were immune response, immune system process, defense response, and response to stimulus, while important NS1-related functions were organelle fission, nuclear division, mitosis, M phase of mitotic cell cycle, mitotic cell cycle, M phase, cell cycle phase, cell cycle process, and cell division. Pathway expression analysis identified that VP1-related pathways included cell adhesion molecules (CAMs), antigen processing and presentation, cytokines and inflammatory response, and the. Important NS1-related pathways were cell cycle, pathways in cancer, colorectal cancer, Wnt signaling pathway, and focal adhesion. Of detected differential genes, 12 genes participated in the pathway in cancer and 6 genes participated in the pathway in colorectal cancer.

**Key Word(s):** 1. parovirus B19; 2. colorectal cancer; 3. microarray; 4. ns1;

**PR0488 Oncology Basic**

**Oligonucleotide ligation assay for SNP detection for colorectal cancer risk detection**

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**Objective:** A specific SNP (rs12953717) in the SMAD7 gene has been associated with an increased predisposition for colorectal cancer. Our aim was to determine the allele frequency of rs12953717 and determine if the association with colorectal cancer risk was valid. Additionally, we hypothesized that low-cost rapid SNP genotyping methods would increase risk predisposition testing. **Methods:** Subsequently, we developed an Oligonucleotide Ligation Reaction for rs12953717 genotyping. The OLA was performed by first PCR of a 346 bp fragment of the SMAD7 gene containing rs12953717. Next, a 3′ common primer was designed as well as detector primers complementary to the SMAD7 gene but varying by the SNP. Ligation occurs only if the correct genotype is present. The common primer is biotinylated, allowing for attachment to streptavidin plates and measurement of fluorescence. **Results:** 24 patients consented to participate in our study. 6 patients were genotyped by the OLA assay. The quality of DNA was appropriate for downstream analysis by 260/280 ratio which approximated 1.7. Confirmation of the OLA assay was performed by sequence analysis of the SMAD7 fragment from all patients. The frequency of the heterozygote CT was found to be 50% in Colorectal Cancer patients, the frequency of the homozygous CC was 16.67% in Colorectal Cancer patients, and the frequency of the homozygous TT was 33.3% in Colorectal Cancer patients. **Conclusion:** The results of this experiment indicate that an Oligonucleotide Ligation Assay is an effective method of Gene Sequencing. Furthermore, out of the 6 patients genotyped by the Oligonucleotide Ligation Assay, 50% of the patients were heterozygous at the SNP rs12953717, demonstrating that having equal or near equal distribution of both C and T at rs12953717 may correlate to a higher risk of Colorectal Cancer. This method is valuable for 3 rd world countries where cost and availability of gene sequencing is often a limiting factor.

**Key Word(s):** 1. OLA; 2. Colorectal Cancer; 3. SNP;

**PR0489 Oncology Basic**

**Primary hepatic neuroendocrine tumor: a case report and review of literatures**

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**Objective:** A case of primary hepatic neuroendocrine tumor (PHNET) was reported. Its clinical pathological features were analyzed and the literatures were reviewed. **Methods:** A 28-year-old female presented with abdominal uncomfortable symptoms for 2 weeks. Under the enhanced CT scanning examination, there are multiple solid space-occupying nodules found within the right lobule of the liver, the size of the largest one measuring 15x10 cm with prominent enhancement and being well circumscribed. The liver biopsy was performed. **Results:** Light microscopy showed fragments of tumor cells were arranged in papillary pattern and cord-like structure, with slight cellular atypia. No necrosis, vascular invasion or hemorrhagic foci were observed. The mitosis was seldom found. Immunohistochemistry showed the tumor cells are positive-stained with pan-cytokeratin, CD56, synaptophysin. The Ki-67 labelling index was counted as 2%. There was not any finding of tumors in the whole GI tract and other abdominal organs with one year follow-up. The diagnosis of primary hepatic NET (G1) was made. **Conclusion:** The primary hepatic NET is a rare tumor in clinical practice. The differential diagnosis is necessary to made in order to exclude the well-differentiated hepatocytic carcinoma and the secondary NET metastasizing from the GI tract.

**Key Word(s):** 1. liver; 2. neuroendocrine tumor; 3. diagnosis;

**PR0490 Oncology Therapy (Chemotherapy, Radiation, Vaccine)**

**Inhibition of PI3K/Akt pathway increases chemosensitivity of gastric cancer to vincristine**

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**Objective:** The phosphatidylinositol 3-kinase (PI3K)/Akt signaling pathway exerts a crucial role in tumorigenesis and tumor progression by promoting cell proliferation and inhibiting apoptosis, a process closely associated with multidrug resistance of tumors. LY294002 is a commonly used pharmacological inhibitor that acts at the ATP-binding site of the PI3K enzyme, selectively inhibiting the PI3K/Akt pathway. Here, we aim to evaluate the effect of LY294002 on chemosensitivity of gastric cancer cells to vincristine in vitro and in vivo and to investigate the possible underlying cellular mechanisms. **Methods:** he effect of LY294002 on cell viability, apoptosis induction and inhibition of tumor growth was analyzed using MTT and TUNEL assay in vitro and in vivo models of gastric cancer. Intracellular accumulation of vincristine was determined by HPLC. The activity of PI3K/Akt pathway was evaluated using a western blot analysis. Furthermore, reverse transcriptase PCR and immunohistochemistry were performed to determine the mRNA and protein expression levels of MDR1/P-gp and apoptosis-related factors. **Results:** We found that gastric cancer cells treated with LY294002 showed a significant inhibition of PI3K/Akt activity. The PI3K inhibitor LY294002 combined...
with vincristine worked synergistically to promote growth inhibition, induce apoptosis and increase the intracellular drug accumulation in gastric cancer cell lines. Similarly, LY294002 could cooperate with vincristine to reduce tumor growth in a gastric cancer model in vivo. Conclusion: LY294002 could decrease expression of MDR1/P-gp, Bcl-2 and XIAP, and up-regulate expression of Bax and caspase-3, thereby enhancing chemosensitivity to vincristine by inhibiting a drug pump and inducing apoptosis. These results suggested that the PI3K/Akt inhibitor LY294002 can enhance chemosensitivity of human gastric cancer to vincristine. This preclinical evaluation of a rational combination of LY294002 and vincristine may provide a new strategy to resolve the multidrug resistance of gastric cancer.

Key Word(s): 1. PI3K/Akt; 2. chemosensitivity; 3. gastric cancer; 4. vincristine;

PR0491
Oncology Therapy (Chemotherapy, Radiation, Vaccine)
The comparison of therapeutic efficacy in primary gastric diffuse large B cell lymphoma
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Objective: Primary gastric lymphoma (PGL) is the most common extranodal lymphoma while diffuse large B-cell lymphoma (DLBCL) is the main histological subtype. The therapeutic efficacy and outcome of DLBCL have not been well defined. This study aimed to analyze the therapeutic efficacy of surgery, chemotherapy and the combination of chemotherapy with surgery for DLBCL. Methods: All the cases satisfied the PGL diagnosis criteria defined by Dawson. The stage of the disease was determined according to the Ann Arbor criteria proposed for gastrointestinal lymphoma. Clinical features of 30 Chinese patients (stage I and II) with newly diagnosed gastrointestinal DLBCL were retrospectively analyzed. Therapeutic outcomes were compared between different treatment groups. Survival curves and the univariate analysis were analyzed by the Kaplan-Meier method. Results: Of the 30 patients recruited into the study, 20 were male and 10 were female with a median age of 65 years (range 29–80 years). 13 patients (43 %) received chemotherapy, 5 years survival rate was 53.8%, 6 patients (20 %) received surgery, 5 years survival rate was 65.9%, 11 patients (37 %) received the combination of chemotherapy with surgery, this treatment attain 63.6% 5 year survival rate. There was no significant difference in survival curves among chemotherapy only, surgery only and the combination of chemotherapy with surgery (p > 0.1). Surgery and the combination of chemotherapy did not provide a significant survival benefit for patients. Conclusion: Chemotherapy should be the first-line therapy procedure for DLBCL. As the traditional treatment, surgery will not be classic therapy for DLBCL.

Key Word(s): 1. DLBCL; 2. Therapeutic Efficacy;

PR0492
Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Regulation of CXCR4 expression in MSCs by cytokines treatment: protection effect in RIGS
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Objective: Radiation-induced gastrointestinal syndrome (RIGS) is a common complication in radiotherapy for solid organ malignancies in abdomen or pelvis. However, currently there are no approved medical countermeasures for RIGS. We aimed to study the therapy effect of cytokines treated Flk-1+MSCs on RIGS. Methods: Flk-1+MSCs were isolated from bone marrow, expanded and treated with a cytokine cocktail, and labeled with enhance green fluorescent protein (EGFP) by lentiviral system. Male Non-obese Diabetic/Severe Combined Immunodeficiency (NOD/SCID) mice received abdominal irradiation at a single dose of 5-Gy, and then transfused intravenously with cytokines treated Flk-1+MSCs and monitored body diarrhea, weight and survival for 30-day. Colonization and differentiation of transplanted Flk-1+MSCs in the irradiated intestine were analyzed by histological and immunohistochemical methods. Results: CXCR4 expression in Flk-1+MSCs was up-regulation of by the cytokine cocktail treatment in vitro. The cytokines treated Flk-1+MSCs could significantly extend the life span of the irradiation mice, decrease diarrhea occurrence and improve the small intestinal structural integrity of irradiated mice. Furthermore, the cytokines treated Flk-1+MSCs were migrated and colonized to the small intestine, and differentiated into fibroblastic-like cells. The immunofluorescence staining showed that the transplanted cells could differentiate into vimentin+α-SMA+ cells. The mechanism may be that cytokines treatment promoted Flk-1+MSCs home to and engraft to injured sites through up-regulation of CXCR4 expression. In addition, transplanted cells may regulate the epithelial stem/progenitor cells directly or indirectly, and modulate the inflammatory response through the secretion of trophic factors such as SCF, IL-6 and HGF, which facilitating gastrointestinal repair and gut mucosal barrier function. Conclusion: Our study revealed that administration of cytokines treated Flk-1+MSCs might be a novel therapeutic approach for RIGS.

Key Word(s): 1. radiation; 2. MSCs; 3. CXCR4; 4. transplantation;
Objective: To evaluate the effect and safety of Chinese herbal medicine based on syndrome differentiation and Moluodan on the gastric epithelial dysplasia in patients with chronic atrophic gastritis. Methods: This is a multi-centered, randomized, clinical controlled trial. Patients in western hospitals and traditional Chinese medicine (TCM) hospitals were given Moluodan or herbal medicine, compared with folic acid respectively. Three hundred and eighty-three subjects with atrophic gastritis accompanied with dysplasia were consecutively enrolled from Beijing and Hangzhou in China. 125 patients in Chinese herbal medicine group, 130 in Moluodan group, and 128 in folic acid group. Endoscopy and biopsies were performed both at the beginning and at the end of a 6-month treatment. The histological and gastroscopic findings, clinical symptom and patient reported outcome (PRO) scale of chronic gastrointestinal diseases were used as the outcome measures. Results: (1) Histological lesions: There was a significant reduction in the mean score of DYS (Dysplasia), IM (Intestinal metaplasia) and AG (Atrophic gastritis) at the end of treatment in both groups of TCM hospital [herbal medicine group, P = 0.000 (DYS), P = 0.003 (IM), P = 0.003 (AG); Folic acid group, P = 0.000 (DYS), P = 0.068 (IM), P = 0.019 (AG)]. In western hospital, significant differences from baseline were observed in subjects treated with Moluodan (DYS, P = 0.000). The total histological score improved significantly in both herbal medicine group and folic acid group in TCM hospital. No statistically significant differences were found between groups. (2) Endoscopy findings: Both Moluodan and herbal medicine could improve the gastroscopic findings including erythroplakia, erosion, hemorrhage and bile reflux, but all failed to reach statistical significance when compared with folic acid. (3) PRO scale score: herbal medicine was superior to folic acid in reduction the dimension score of reflux, indigestion, emotion and total score, p = 0.002, 0.000, 0.005 and 0.000. (4) Clinical symptom: In western hospital, the symptom overall response rate was 68.63% and 65.91% in Moluodan group and folic acid group. In TCM hospital, 83.16% and 87.1% in Moluodan group and folic acid group. There were no statistically significant differences. Conclusion: It was concluded that Chinese herbal medicine based on syndrome differentiation and Moluodan may have beneficial effects on improving the pathological, gastroscopic findings and clinical symptoms, which have more clinical advantages than folic acid.

Key Word(s): 1. Herbal medicine; 2. Gastric dysplasia; 3. Atrophic gastritis; 4. Clinical trial.
**PR0496**

**Oncology Therapy (Chemotherapy, Radiation, Vaccine)**

**Influence of FOLFOX4 combined 1-MT on the surface**

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**Objective:** The present study was designed to detect inhibition effect of FOLFOX4 combined 1-MT on transplant gastric carcinoma growth in mice subcutaneous and effect of FOLFOX4 combined 1-MT on Indoleamine-2,3-dioxygenase (IDO) expression in gastric cancer tissue. The present study was also designed to detect the activities of the spleen dendritic cells (DC) of gastric cancer mice treated with FOLFOX4 combined 1-MT and the synergy anti-tumor mechanism of FOLFOX4 and 1-MT.  

**Methods:** The mice gastric cancer cells MFC were transfected with IDO gene recombinant plasmid by lipofectamine method. The IDOmRNA was highly expressed in pcDNA3.1-IDO cells. Murine model of gastric cancer was established. Tumor-bearing mice was divided into 6 groups: MFC non-transfected group (Group A), pcDNA3.1 group (Group B), pcDNA3.1-IDO group (Group C), 1-MT-pcDNA3.1-IDO treatment group (Group D), FOLFOX4-pcDNA3.1-IDO treatment group (Group E) and FOLFOX4+1-MT-pcDNA3.1-IDO treatment group (Group F). Tumor observation, differences of tumor weight, and then detect the expression of IDO in tumor tissues by immunohistochemical. The method of RT-PCR was used to detect the expression of IDOmRNA of the spleen organization of tumor-bearing mice. The method of Flow cytometry was used to detect the expression of CD11c, CD86, and CD80, and Major histocompatibility Antigen complex II (MHC-II) in the surface of Dendritic Cells of the spleen of tumor-bearin mice.  

**Results:** Compared with Group A and Group B, the tumor on Group C grows faster, the weight of tumor increases significantly (P < 0.05). Compared with Group C, the weight of tumor on Group D, Group E and Group F decreases significantly (P < 0.05). The tumor inhibitory rates were 8.91%, 80.20%, 86.13% respectively. There were significant differences between them (P < 0.05). Compared with Group D and Group E, the weight of tumor on Group F decreases significantly (P < 0.05). The expression of IDOmRNA in tumor tissues: Treatment group, cancer cells were less color, especially in the combination group there was even no brown color cells; the gastric cancer cells in control group were more, which were arranged in sheets, much larger, colored extensively, and more colored granules. Compared with Group A and Group B, the expression of IDOmRNA of Group C increases significantly (P < 0.05). The expression of IDOmRNA of Group A and Group B are not significantly different (P > 0.05). Compared with the Group C, the expression of IDOmRNA of group D, group E and group F reduces significantly (P < 0.05). Compared with Group F, the expression of IDOmRNA of Group D and Group E increases significantly (P < 0.05). Compared with the Group C, the number of DC in the spleen of Group A, Group B and Group D increases slightly. Compared with the Group C, the number of DC in the spleen of Group D and Group E increases significantly (P < 0.05). Compared with the Group F, the number of DC in the spleen of Group D and Group E reduces slightly. Compared with the Group C, the surface molecule including CD86, CD80 and MHC-II of DC of the spleen of Group A, Group B, Group D, Group E and Group F increases significantly (P < 0.05). Compared with the Group F, the surface molecule including CD86, CD80 and MHC-II of DC of the spleen of Group D and Group E reduces significantly (P < 0.05).  

**Conclusion:** FOLFOX4 combined 1-MT inhibits the transplant tumor growth in mice subcutaneous, down-regulated the Indoleamine-2,3-dioxygenase (IDO) expression in gastric cancer tissue, reduces the expression of IDOmRNA of the spleen organization of tumor-bearing mice, increases the activity of dendritic cells in the spleen of tumor-bearin mice and improves the ability of the body to resist cancer.  

**Key Word(s):** 1. FOLFOX4; 2. 1-MT; 3. IDO; 4. Dendritic cell; 5. Indoleamine-2,3-dioxygenase (IDO); 6. Dendritic cell; 7. FOLFOX4.
PR0498
Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Curcumin attenuates MNU induced gastric carcinoma via endoplasmic stress medicated apoptosis in rats
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Objective: Curcumin is suggested as an anti-cancer reagent in previous studies. The mechanism of curcumin’s anti-cancer activity is not completely revealed though. This study was aimed to investigate the possible mechanism of curcumin’s effects on N-methyl-N-nitrosourea (MNU) induced gastric cancer in rats. Methods: Male wistar rats were divided into 4 groups: Ctrl: control group; MNU: rats treated by MNU intragastrically; MNU+CUR: rats treated by MNU administration supplemented with curcumin intragastrically; MNU+CUR+PBA: rats treated by MNU and curcumin administration pretreated by 4-phenylbutyrate (4-PBA) intraperitoneally. Gastric cancer tissue was harvested from sacrificed rats. Reactive stress spices (ROS) were detected by DHE staining. A TUNEL assay was used to evaluate apoptosis of gastric cancer cells. Real-time PCR and Western blotting were used to determine the activation of endoplasmic reticulum (ER) stress. Results: Excessive generation of ROS was induced by curcumin in MNU+CUR, MNU+CUR+PBA compared with Ctrl and MNU. Cancer cell apoptosis in MNU+CUR increased significantly compared with MNU and MNU+CUR+PBA. Elevated expressions of GRP78 and CHOP were confirmed by Real-time PCR and Western blotting. Increased expression of activation of Caspase-12 (in a cleaved form) was examined by Western blotting. GRP78 and CHOP are key molecules in ER stress signal transmission, while Caspase-12 is referred as an ER-stress specific indicator of apoptosis. These results indicated that during MNU-induced gastric carcinoma, ER stress was activated by curcumin-induced ROS generation, taking responsibility for cancer cell apoptosis. 4-PBA (ER stress inhibitor)’s protective effect against cancer cell apoptosis confirmed the involvement of ROS-mediated ER stress in curcumin’s therapeutic effects in gastric carcinoma. Conclusion: ROS induced ER stress plays an important role in curcumin induced gastric cancer cell apoptosis
Key Word(s): 1. curcumin; 2. gastric carcinoma; 3. apoptosis;

PR0499
Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Curcumin enhances chemosensitivity to 5-fluorouracil in SGC-7901 via activation of PERK pathway
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Objective: PERK (protein kinase RNA–like ER kinase) and eIF2α (eukaryotic translation initiation factor 2 alpha)/ATF4 (activating transcription factor 4/CHOP) is an important signaling pathway conducting apoptotic signals in endoplasmic reticulum (ER) stress. It is suggested that curcumin induces apoptosis of cancer cells in several studies and our previous work. This study is aimed to investigate whether curcumin enhances chemosensitivity of 5-fluorouracil (5-FU) in gastric cancer and to explore its possible mechanism. Methods: Equal amount SGC-7901 cells were divided into Ctrl (control), FU (treated by 5-FU), CUR (treated by curcumin) and FU+CUR (co-administered by curcumin and 5-FU). Assessment of activation of PERK signaling pathway was evaluated by examining protein expression of phosphorylated PERK (p-PERK), phosphorylated eIF2α (p-eIF2α), ATF4 and CHOP in each group. Chemosensitivity to 5-FU was evaluated by both cell proliferation assay and apoptosis assay. Results: Dramatically inhibited cell proliferation and increased apoptosis were identified in FU, CUR and FU+CUR compared with Ctrl, but FU+CUR showed the most significant changes. This result suggested that curcumin enhanced chemosensitivity of 5-FU against gastric cancer cells. Mechanically, FU+CUR exhibited the most activation status of PERK signaling pathway than FU and CUR, even in which PERK signaling pathway was also activated. This result indicated that activation of PERK signaling pathway was one of the possible mechanisms in curcumin-enhanced chemosensitivity to 5-FU against gastric cancer cells. Conclusion: Curcumin exerts anticancer activity and chemosensitivity to 5-FU by activating PERK signaling pathway.
Key Word(s): 1. PERK; 2. Curcumin; 3. Chemosensitivity;

PR0500
Oncology Therapy (Chemotherapy, Radiation, Vaccine)
PERK is involved in drug resistance of gastric cell line to trastuzumab
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Objective: Original studies have shown that trastuzumab improved overall survival rate in patients with advanced gastric cancer. However, a relatively high trastuzumab resistance rate was reported in several studies. This study was aimed to elucidate the possible mechanism of trastuzumab resistance in gastric cancer cells. Methods: Trastuzumab was used to incubate gastric carcinoma cell line MKN45 and NCI-N87. Western
 blotting was applied to evaluate the phosphorylation of PERK (protein kinase RNA – like ER kinase) in each cell line. Then a PERK gene specific siRNA was transfection into gastric cancer cells. RNA interference was examined by RT-PCR. Drug resistance against trastuzumab was assessed by MTT assay. Results: Gastric cancer cell line MKN45 was found resistant to trastuzumab rather than NCI-N87. The expression of phosphorylated PERK, which is the active form of PERK, increased dramatically in NCI-N87 cells than in MKN45 cells. After knockdown PERK gene by RNAi, NCI-87 exhibited drug resistant behavior against trastuzumab. These results indicated that trastuzumab’s anti- proliferation signaling transduction relied on activation of PERK. Low expression or loss of PERK made gastric cells resistant to trastuzumab. Conclusion: Deficiency of PERK plays an important role in trastuzumab resistance in gastric cancer.

Key Word(s): 1. PERK; 2. Trastuzumab; 3. Drug Resistance;

PR0501 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Synergistic effect of sinomenine united with 5-fluorouracil on colon carcinoma
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Objective: To study the suppressive effects of sinomenine united with 5-fluorouracil on colon carcinoma LoVo cells in vitro and in vivo and their side effects. Methods: The respective and united effects of sinomenine and 5-fluorouracil on colon carcinoma LoVo cells cultured with RPMI 1640 medium were detected by measuring CCK-8 dye absorbance of living cells. Hoechst 33258 staining and Annexin V/PI apoptosis kit was used to detect the percentage of cells undergoing apoptosis. The median-effect principle was used to assess the united effects. The nude mice were chose to set up the model of tumour xenografts. Either in united or respective method, sinomenine 25 mg/kg/day and 5-fluorouracil 12 mg/kg/day were injected into the nude mice and then to observed the suppressive effects and side effects. Results: Whatever united or respective, it was obviously that sinomenine and 5-fluorouracil apparently restrained the proliferation of LoVo cells and induced apoptosis. Mean (SD) growth suppressive rate achieved 74.92±0.76% and the apoptic rate achieved 31.71±0.88% at 48 h. At lower concentrations, the united effects showed synergistic (CI<1). It was showed by Annexin V/PI staining and Hoechst 33258 staining that the percentage of apoptotic cells induced by SIN and 5-FU combined or alone were significantly higher than the group control (p<0.05). With the suppressive rates of sinomenine and 5-fluorouracil 66.30% and 73.90%, their alone suppressive effects on the volume of tumour xenografts were distinct. However, the united effects of them are more significant with suppressive rate achieving 90.06%. And the suppressive rate on the tumor weight of the combined group was 83.87% compared to 51.32% and 57.77% of SIN group and 5-FU group. Throughout the process of the study, there was no obvious side effect observed. Conclusion: It was apparent that the united effects of sinomenine and 5-fluorouracil on the growth colorectal carcinoma LoVo cells in vitro and in vivo overmatched using then respectively. Sinomenine united with 5-fluorouracil had synergistic effects at lower concentrations and promoted apoptosis, and did not obviously increase the side effects of chemotherapy.

Key Word(s): 1. sinomenine; 2. 5-fluorouracil; 3. colon carcinoma; 4. chemotherapy;
PR0503 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Retrospective analysis of the patients with peritoneal malignant mesothelioma in Cangzhou area
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Objective: To explore the clinical features of peritoneal malignant mesothelioma (PMM) in Cangzhou area by analysis of the incidence of peritoneal malignant mesothelioma and asbestos exposure in our 4 third-grade class-A hospitals for the past five years. Methods: we collected clinical information of patients with PMM in 4 third-grade class-A hospitals for the past five years, to analysis the incidence, asbestos exposure history, imaging studies, diagnostic method and pathological type of peritoneal malignant mesothelioma patients. Results: 162 cases of patients with PMM were treated in the hospitals, 93.2% had history of asbestos exposure, and women accounted for 67.2%, which may be related to a higher incidence of handing spinning asbestos occupations in women. 76.5% were diagnosed by ultrasound-guided peritoneal biopsy, which confirmed its main diagnostic methods; 79.0% were epithelial type; intraperitoneal chemotherapy was the main treatment method; and the average survival time was 11.1 years. Conclusion: PMM was closely related to asbestos exposure in this region, and women accounting for the majority. Ultrasound-guided peritoneal biopsy was the preferred diagnostic method and intraperitoneal chemotherapy was the main treatment method. These findings suggest the arrival of the incidence peak of PMM in this region.
Key Word(s): 1. mesothelioma; 2. Asbestos; 3. biopsy; 4. chemotherapy;

PR0504 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Cytotoxic and apoptotic effects of Lindera strychnifolia leaf essential oil on HepG2 cells
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Objective: Lindera strychnifolia (Sieb. and Zucc.) F. Villars (Lauraceae) is a well-known herb in traditional Chinese medicine, has been used in the treatment of stomach and renal diseases, neuralgia, rheumatism, hyperkinesias. The aim of this study is to determine cytotoxic activity and mechanism of induction of HepG2 cell death of Lindera strychnifolia leaf essential oil. Methods: Cytotoxicities of leaf oil on eight human carcinoma cells (Eca-109, HepG2, HT29, MDA-MB-231, PC-3, SGC7901, SW1990 and U2-OS) and a normal cell HL-7702 were examined using MTT assay. Apoptotic effect of leaf oil on HepG2 was investigated using Hoechst 33258 staining, agarose gel electrophoresis and flow cytometer technique. Besides, cytotoxicities of four compounds from the essential oil were further investigated. Results: Leaf essential oil exhibited significant cytotoxicity against all the cells tested, and had potential cancerous cell selectivity. The lowest IC50 of 22.68 ± 1.19 μg/ml was measured for HepG2. The anticancer mechanism of leaf oil on HepG2 involved induction of apoptosis. Conclusion: Lindera strychnifolia leaf essential oil shows significant cytotoxicity and potential cancerous cell selectivity suggests that it could be a potential medicinal resource in cancer therapy.
Key Word(s): 1. L. strychnifolia; 2. cytotoxic effect; 3. apoptotic effect; 4. essential oil;

PR0505 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Effect of education background and family income of patients on clinical trials compliance
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Objective: The aim of this study was to explore the effect of education background and family income of the patients of clinical trials into the group and their adherence. Methods: A total of 73 patients with gastrointestinal cancer, who were participated in clinical trials at the Xijing Hospital of Digestive Diseases were enrolled in this study. These patients were divided into the following groups according to the education background. Group I: primary school to junior high school (30 patients), Group II: junior high school to college graduate (43 patients). Also patients were divided into two groups according to average monthly family per capita income. Group A: below ¥5,000 (38 patients), Group B: 5,000 above (35 patients). The differences between the groups were analyzed according to the final number of patients enrolled, patients for treatment on time and patients completing the studies. Results: 56 patients were enrolled finally. According to the education background, there were 18 patients in Group I (60%),38 in Group II (88%). Also there were 31 patients in Group A (81%), 25 in Group B (71%), accounting to average monthly family per capita income. Exclude patients who stopped the treatment due to disease progression, there were 7 patients stop treatment because of economic factors, there were 4 patients in Group I (22%), 3 in Group II (7%). Also there were 6 patients in Group A (19%), 1 in Group B (4%). All the contrast between the groups were statistically significant. (P < 0.01) Conclusion: Educational background and family income affects both the patients enrolled and compliance of enrolled patients in clinical trials. Patients with higher degree are more likely to accept clinical trials and have better compliance.
Key Word(s): 1. clinical trials; 2. family income; 3. education background;

PR0506 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Analysis of serum IL-18 and TGF-β levels after liver resection
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Objective: To study the effects of serum IL-18 and TGF-β on the prognosis of liver carcinoma. Methods: 64 liver resection patients were included at The People’s Hospital of YiChun city in JiangXi province from Septemper 2009 to Septemper 2012, consisting of 34 hypohepatia patients and 34 liver function normal patients. TGF-β band IL-10 in PBM were detected by enzyme-linked immunosorbent assay (ELISA). Results: Compared to health control group, IL-18 level significantly reduced in the PBM of hypohepatia patients and increased in the PBM of liver function normal patients but TGF-β inversely (P < 0.05). Conclusion: Liver resection could improve immunologic function of HCC. However, liver injury was positive correlated with IL-18 and TGF-β. So IL-18 and TGF-β as biomarker of PBM in HCC, is beneficial to evaluate recent curative effect in HCC.
Key Words: 1. Liver resection; 2. Liver carcinoma; 3. IL-18; 4. TGF-β1.

PR0507 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Comparative study of helical tomotherapy, intensity-modulated radiation therapy for Hepatocellular carcinoma
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Objective: To compare characteristics of helical tomotherapy (HT), intensity-modulated radiation therapy (IMRT) for hepatocellular carcinoma and the dose of high risk organs. Methods: 20 patients with the diagnosis of Hepatocellular carcinoma underwent HT or IMRT radiation therapy. Target area and normal organs on each image were underlined by the same physician. HT, SaS-IMRT were performed for each patient, with the dose of 60 Gy/20 fractions. Compare the conformity index (CI), homogeneity index (HI), dose of liver, kidney and stomach. Results: The conformity index (CI) and homogeneity index (HI) in HT and IMRT were 0.806 ± 0.053 and 1.058 ± 0.027 and 1.061 ± 0.184, 0.523 ± 0.057 (P < 0.05). The average dose and V10-V50 of liver were lower in HT group than in IMRT groups (P < 0.05). The maximal and average doses for the right kidney and stomach, and the maximal dose for the spinal cord were lower in HT group than in IMRT groups. Conclusion: Compared to IMRT, HT was advantageous in the hepatocellular carcinoma radiotherapy in the volume, CI, HI, protect of the high risk organs.

Key Words: 1. HCC; 2. helical tomotherapy; 3. irmt; 4. radiotherapy;

PR0508 Oncology Therapy (Chemotherapy, Radiation, Vaccine)
Effects of VEGF-C and CTHRC1 on prognosis of rectal carcinoma patients
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Objective: To explore the impact of VEGF – C and CTHRC1 on colorectal cancer prognosis. Methods: 120 pathological specimens of colorectal cancer were collected by endoscopic biopsy at The People’s Hospital of YiChun city in Jiangxi province from Septtember 2005 to Septtember 2010. No treatment was given before collection. The expression of CTHRC1 and VEGF-C was examined by immunohistochemistry and the correlation with clinical characteristics was analyzed by SPSS17.0. Results: the expression of CTHRC1 also related to tumor differentiation and TNM stages, both of which had no correlation with the age or gender. Conclusion: Compared to IMRT, HT was advantageous in the hepatocellular carcinoma radiotherapy in the volume, CI, HI, protect of the high risk organs.

Key Words: 1. VEGF-C; 2. CTHRC1; 3. Rectal cancer;

PR0509 Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Low-level reactive oxygen species (ROS) can induce over-proliferation of human pancreatic cells
Presenting Author: DAI XINXIN
Additional Authors: HAO JIANYU
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Objective: Smoking is considered to be an independent risk factor for pancreatic cancer. Oxidative stress induced by smoking causes over-proliferation of pancreatic ductal epithelial cells and suppresses apoptosis. This study was undertaken to investigate the effect of oxidative stress on the proliferation of cultured human pancreatic ductal epithelial cells. Methods: Human pancreatic ductal epithelial cells were exposed to different concentrations of hydrogen peroxide (H2O2) for between 6 and 48 h. Cell viability and growth rate were estimated using methyl thiazolyl tetrazolium (MTT). Propidium iodide was used for cell cycle measurement. Proliferation index (PI) was calculated using traditional methods. Results: Exposure of cells to low concentrations of H2O2 (25, 50 μmol/L) resulted in an increase in optical density (OD) measured by MTT. There were accompanying increases in viability and PI. The changes were more marked at 25 than at 50 μmol/L, and were related to the duration of exposure. High concentrations of H2O2 (100, 200, 300 μmol/L) resulted in a dose- and time-dependent decrease in OD, viability and PI. Conclusion: Low concentrations of H2O2 significantly promote the proliferation of human pancreatic ductal epithelial cells in a dose- and time-dependent manner. High concentrations of H2O2 reduce cell viability and inhibit cell proliferation.

Key Words: 1. oxidative stress; 2. pancreatic cells; 3. proliferation; 4. hydrogen peroxide;

PR0510 Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Association of neuropilin-1 expression and angiogenesis and overall survival in pancreatic cancer
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Objective: Neuropilin-1 (NRP-1) appears to bind vascular endothelial growth factor (VEGF) and class III semaphorins, and enhance the activity of VEGF tyrosine kinase receptors in response to VEGF. Inhibitors of neuropilin-1 have been shown to be effective in reducing tumor growth. We correlated NRP-1 expression with microvessel density (MVD) and clinical significance of resected pancreatic cancer. Methods: Tissue cores from a bi-institutional retrospective series of pancreatic cancer patients were used to build tissue microarrays. NRP-1 expression was graded semi-quantitatively using immunohistochemistry (IHC) in 172 patients with resected pancreatic cancer. Moreover, sections stained with anti-CD31 antibody were evaluated by the semi-quantification of MVD. Expression of NRP-1 was correlated with MVD and clinicopathologic features in pancreatic cancer cases. Prognostic effects of low- or high-expression of NRP-1 were evaluated by cox regression and Kaplan-meier analyses. Results: The prevalence of positive NRP-1 expression (defined as score ≥30) was observed in 87 of 172 resected pancreatic cancers (54%), which was significantly higher than that in adjacent “normal” tissues of pancreas.

Key Words: 1. oxidative stress; 2. pancreatic cells; 3. proliferation; 4. hydrogen peroxide;
Objective: The pathophysiology of acute pancreatitis (AP) is dangerous and has a high mortality. The most serious complication of AP is multiple system organ failure (MSOF) during the early stage. Mortality from AP still need discussion. rhKD/APP from genetic engineering is recombinant human β amyloid precursor fragment (289–345) which is made of 57 amino acid. rhKD/APP has activity of the Kunitz of serine protease inhibitors. It is known to inhibit proteolysis of kallikrein, plasmin and trypsin. The role of rhKD/APP has always been considered to be due to the inhibition of the exocrine pancreatic secretion in order to reduce pancreatic autodigestion and was deeply investigated. In the meanwhile rhKD/APP can inhibit cytokines and inflammation, it play a therapeutic and preventive role in AP. Methods: We use the model of AP which is induced by injection of sodium deoxycholate solution into the main pancreatic duct of rats. Amylase and lipase activity were assayed and histopathological changes were observed after treatment with rhKD/APP. We observe the therapeutic and prevent effect of rhKD/APP on acute pancreatitis in rats. Results: Compared with the model group, rhKD/APP markedly inhibited Amylase and Lipase activity and ameliorated histopathological changes of on acute necrosis pancreatitis. Conclusion: Whereas the role of rhKD/APP in the pathogenesis of AP still need discussion.

Key Word(s): 1. neuropilin-1; 2. pancreatic cancer; 3. microvessel density; 4. overall survival;

PR0511
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Effect of rhKD/APP on experimental acute necrosis
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Objective: The pathophysiology of acute pancreatitis (AP) is associated with a higher MVD and pT stage. Importantly, tissue expression of NRP-1 was associated with poor survival in human pancreatic cancer (p < 0.001). Conclusion: NRP-1 is highly expressed in pancreatic cancer and its expression is correlated with angiogenesis, tumor invasion and prognosis. This molecule plays an important role in the development and progression of human pancreatic cancer.

Key Word(s): 1. neuropilin-1; 2. pancreatic cancer; 3. microvessel density; 4. overall survival;

PR0512
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Effect of pioglitazone in acute pancreatitis-associated lung injury
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Objective: To study the role of NF-κB and Caspase-3 in the pathogenesis of acute pancreatitis-associated lung injury (APALI) in rats, and the effect of pioglitazone, a ligand of peroxisome proliferator-activated receptor gamma, on these factors. Methods: A total of 54 Sprague Dawley rats were randomly and averagely divided into 3 groups, named group A, C and T. Group A and C served as SAP model and sham operation group, respectively. The rats in group T were treated with pioglitazone, an agonist of peroxisome proliferator activated receptor. The modified Li Qing-hua’s method was used to reproduce severe acute pancreatitis (SAP) models. The histopathological changes of pulmonary tissues were examined by microscopy. The activity of myeloperoxidase (MPO) in pulmonary tissues were measured. The expression of pulmonary NF-κBp65 and Cleaved-Caspase 3 were determined by immunohistochemical staining (ABC). Results: The histological examination revealed extensively inflammatory response in pulmonary tissues after SAP model was induced, but inflammatory response was alleviated in group T. The activity of MPO in group T were significantly decreased compared with group A. The activity of NF-κBp65 in group A was markedly upgraded compared with group C at all pionts (P < 0.01), which was decreased significantly in group T compared with group A at 6 h (P < 0.05). The lung expression of Cleaved-Caspase 3: The activity of Cleaved-Caspase 3 in group A and group T was markedly upgraded compared with group C at all pions (P < 0.01), which was decreased significantly in group T compared with group A at 6 h and 12 h (P < 0.05). Conclusion: Above findings demonstrate that pioglitazone can attenuate the severity of APALI by inhibition of NF-κB activation and Caspase-3 expression. The beneficial effects of pioglitazone might
be due to its anti-inflammatory activities and regulation of apoptosis. The pioglitazone can be used as a new drug in treatment of APALI.

Key Word(s): 1. acute pancreatitis; 2. Lung injury; 3. Pioglitazone; 4. pathogenesis;

PR0513
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Melatonin prevents damage to intestinal mucosa in pancreatitis
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Objective: This study was to investigate the protective effects of melatonin on intestinal integrity in a rat model of severe acute pancreatitis (SAP) to determine whether melatonin prevented intestine barrier dysfunction and reduced bacterial translocation. Methods: Forty male Sprague-Dawley rats were randomly divided into 3 groups: 8 rats in the sham treated group, 18 rats in the SAP group, and 14 SAP rats in the melatonin treatment (MT) group. SAP was induced by retrograde injection of 4% taurocholate into the biliopancreatic duct. Melatonin was administered 30 min before taurocholate injection in melatonin-treated rats. All rats were killed 24 h after pancreatitis induction. We used real-time fluorescence quantitative polymerase chain reaction to detect and quantify Escherichia coli O157 in postcava blood. Microvilli structure was also analyzed with transmission electron microscopy. Results: The amount of E. coli DNA in the MT group was significantly lower than in rats in the SAP group, but it was not detected in the control group. Villus height and crypt depth in ileum were significantly higher in the MT and control groups compared to the SAP group and they were significantly higher in the MT group than in the SAP group. Conclusion: Melatonin prevented gut barrier dysfunction and reduced bacterial translocation resulting in reduced pancreatic related infections and decreased early mortality rats.

Key Word(s): 1. Acute pancreatitis; 2. Bacterial; 3. barrier dysfunction; 4. Microvilli structure;

PR0514
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Clinical significance of melatonin concentrations in predicting the severity of acute pancreatitis
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Objective: to assess and predict the value of plasma melatonin in acute pancreatitis combined with APACHE II and BISAP scoring systems Methods: APACHE II and BISAP scores were calculated for the first 24 hours after admission in 55 patients with AP. At the same time, morning hollow (06:00 hr) serum melatonin concentrations were also measured on the first day after admission. According to the Diagnosis and treatment guidelines for acute pancreatitis of China, 42 patients suffered a mild AP (MAP). The other 13 developed a severe AP (SAP). 43 healthy volunteers were chosen as a control. The ability of melatonin, APACHE II and BISAP scoring systems to predict SAP was evaluated using Receiver operating characteristic (ROC) curve. The optimal cutoff concentration for SAP from the ROC curve was used to classify the patients into high concentration group (34 cases) and low concentration group (21 cases), the differences of high score rate of APACHE II and BISAP scoring systems between the two groups were compared respectively. Results: The MAP patients had a higher melatonin Levels than that of SAP and control, 38.34 versus 26.77 ng/L (P = 0.021), 38.34 versus 30.73 ng/L (P = 0.003), respectively. No significant difference in melatonin concentrations existed between SAP group and the control group (P > 0.05). The accuracy for SAP by melatonin, APACHE II score and BISAP score were 0.758, 0.872, 0.906 according to the ROC curve. A melatonin concentration≥28.74 ng/L was associated with an increased risk of developing SAP. Incidence of high score (≥2) of BISAP was significantly higher in patients with low melatonin concentration (≤28.74 ng/L) compared to those with high concentration (≥28.74 ng/L), 42.9% versus 14.7% (P = 0.02). For the APACHE II score, the incidence of high score (≥10) between the two groups had no significant difference (P > 0.05). Conclusion: Melatonin concentration variations is closely related to the severity of AP and BISAP score. We judge the severity of disease by measuring the levels of serum melatonin.

Key Word(s): 1. Pancreatitis; 2. Melatonin; 3. Cutoff; 4. Predict;

PR0515
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Alpha-fetoprotein-producing neuroendocrine carcinoma of pancreas: a case report
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Affiliations: Peking University Third Hospital

Objective: Pancreatic neuroendocrine tumor (PNET) is a rare malignant tumor of the pancreas. Methods: We present a case of AFP-producing PNET, and the AFP-producing site was determined by immunohistochemical approach in the resected specimen. Results: The patient was admitted to our hospital with elevated serum AFP with values of up to 321.4 ng/ml (normal 0–20 ng/ml). The pancreas was enlarged and contained a mass measuring 5.2 × 4.8 × 4.1 cm which showed probable encasement of the splenic vein by contrast-enhanced abdominal computed tomography. The patient underwent resection of the pancreatic tail and body. Interoperatively, no metastatic nodule on the liver surface, or lymph node metastasis was found. Light microscopy predominantly showed circumscribed cellular islands of tumor composed of large and small solid nests of polygonal cells. The tumor cells had moderate amounts of cytoplasm and round to oval nuclei with mild to moderate atypia. The tumor cells were positive for chromogranin A, synaptophysin, CD99, AAT, cytokeratin (CK)19, CK7, CKpan and β-catenin, and also showed diffuse immunoreactivity for AFP and human chorionic gonadotrophin These immunohistochemistry findings supported the diagnosis of AFP-producing neuroendocrine carcinoma. The patient’s serum AFP was decreased to 23.15 ng/ml on the day 29 after operation. Postoperatively the serum AFP level gradually increased to 700 ng/ml. Conclusion: This is first case of AFP-producing pure pancreatic neuroendocrine carcinoma. Serum levels of AFP are a useful marker for monitoring therapeutic response, recurrence or metastasis in this disease.

Key Word(s): 1. AFP; 2. pancreas; 3. Neuroendocrine; 4. Carcinoma;
Effects induced by gemcitabine in pancreatic cancer cells transfected by beclin1-siRNA

Objective: To investigate the gemcitabine’s affect to the cell biology characteristics of the human pancreatic cancer cell line MiaPaCa2 transfected with siRNA silencing Beclin1 gene. Methods: MiaPaCa2 cells were transfected with Beclin1 siRNA expression vector. The Beclin1 expression in cells were detected by RT-PCR and Western blot. The cell cycle and apoptosis detection of cell pancreatic cancer cells interferenced by Beclin1 were applied on after using gemcitabine. Results: The MiaPaCa2 cell cycle was shortened in S phase and G2 phase after the transfection of Beclin1-siRNA gene, but there was no change happened in cell apoptosis. Conclusion: The expression of Beclin1 gene could inhibit the cell cycle distribution of the human pancreatic cancer cell line MiaPaCa2 and influence the cell cycle and apoptosis started by the gemcitabine.

Key Word(s): 1. Beclin1; 2. siRNA; 3. Gemicitabine; 4. Pancreatic cancer;

Pancreatic Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
The study on the induction of immune cytotoxic T lymphocyte responses against pancreatic cancer

Objective: To investigate the induction of anti-tumor immune response induced by transfected dendritic cells (DCs) with MUC4 mRNA AND hTERT mRNA of human pancreatic cancer, and to provide the experimental evidences for the treatment of human pancreatic cancer with multi-epitope loaded DC vaccine. Methods: DCs were isolated and cultured from peripheral blood mononuclear cells (PBMCs). After being transcipated and amplified, MUC4 mRNA and hTERT mRNA were transfected into DCs in order by electroporation. The expression of MUC4 and hTERT in DCs were detected by quantitative real-time PCR and Western blot. The survival rate of transfected DCs were determined by MTT method. The induction of CTL activation by MUC4 mRNA and hTERT mRNA transfected DCs were evaluated through testing released IFN-γ by ELISA method. The induction of cytotoxic T lymphocyte (CTL) response by MUC4 mRNA and hTERT mRNA transfected DCs were measured by 51Cr standard cytotoxicity test. Results: After MUC4 mRNA and hTERT mRNA transfection for 48 h, the expression amount of MUC4 and hTERT were 38.54 ± 12.87 U/ml and 36.35 ± 5.03 after MUC4 mRNA or hTERT mRNA transfection for 48 h (P < 0.05). After MUC4 mRNA or hTERT mRNA transfection, the survival rate of DCs were stabilized around 80%, and the survival rate of DCs were 32.57 ± 20.1 U/ml, there was significant difference (P < 0.05). The DCs transfected with MUC4 mRNA and hTERT mRNA could effectively induce HLA-A2+/MUC4+/hTERT+ specific CTL immune responses against pancreatic cancer cells in vitro. Conclusion: The induction of CTLs by DCs co-transfected with human pancreatic cancer MUC4 mRNA and hTERT mRNA could produce more powerful anti-tumor immunity than single antigen loaded DCs.

Key Word(s): 1. pancreatic cancer; 2. CTLs; 3. DCs; 4. mRNA;
PR0519
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
KAI1 inhibits lymphangiogenesis and lymphatic metastasis of pancreatic cancer in vivo
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Affiliations: General Hospital of Shenyang Military Area Command

Objective: Several studies have shown that the KAI1 gene inhibits cell metastasis, although its mechanism of action has not been fully elucidated thus far. The objectives of the current study are to determine the association of KAI1 with lymphatic metastasis and to explore its relationship with human pancreatic cancer. Methods: The KAI1 gene was transfected into the pancreatic cancer cell line MIA PaCa-2 by using liposomes and selection with G418, and the protein was measured by Western blot. After successful infection was established, growth curve were studied by MTT. VEGF-C secretion by pancreatic cancer cell were measured by ELISA. The KAI1 and pCMV transfected MIA PaCa-2 cells were renamed as MIA PaCa-2-K and MIA PaCa-2-p. The cells were injected into the subcuticular layer of nude mice, respectively, and assessed for both tumor growth and metastasis through the lymphatic nodes. Lymphangiogenesis in tumors was measured by immunohistochemistry. Results: The VEGF-C secretion were significantly reduced in MIA PaCa-2 cells after transfected with KAI1 gene. The subcutaneous tumors were similar and increased at the same rate in MIA PaCa-2-K, MIA PaCa-2, and MIA PaCa-2-p groups of mice that were studied. MIA PaCa-2-K tumors showed lower levels of lymphangiogenesis and lymph node metastasis compared with MIA PaCa-2 and MIA PaCa-2-p tumors. Conclusion: Overexpression of KAI1 inhibits the lymphangiogenesis and lymph node metastasis of MIA PaCa-2 pancreatic tumors.

Key Word(s): 1. pancreatic cancer; 2. KAI1; 3. lymphangiogenesis;

PR0520
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Evaluation of endoscopic ultrasound-guided fine-needle aspiration biopsy for pancreatic lesions
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Objective: To evaluate the diagnostic value of the cell block (CB) method by endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) biopsy for pancreatic lesions. Methods: We prospectively studied in 32 pancreatic lesions patients, who underwent EUS-FNA in the First Affiliated Hospital of Guangxi Medical University from November 2010 to February 2013. The EUS-FNA samples of all patients were processed by conventional smear cytology, liquid-based cytology (LBC) and the cell block. Results: 32 pancreatic lesions patients were finally diagnosed as pancreatic tumors in 26 cases and benign lesions in 6 cases, including 23 cases of pancreatic cancer, 5 cases of chronic pancreatitis, 2 cases of pancreatic endocrine tumors (PETS), 1 case of pancreatic solid pseudopapillary tumor and 1 case of pancreatic tuberculosis. The diagnostic sensitivity of conventional smear cytology, liquid-based cytology and cell block method were 61.5%, 65.4% and 76.9%, respectively. The diagnostic specificity of three methods were all 100%. The diagnostic accuracy rate of the cell block was higher than the conventional smear cytology (P < 0.05) and the liquid-based cytology (P < 0.05). Conclusion: The endoscopic ultrasound-guided fine-needle aspiration biopsy of the cell block might improve the diagnosis accuracy of pancreatic lesions, and the immunohistochemical staining of cell block might help to increase the diagnosis of pancreatic tumor typing. The cell block has its clinical value in the diagnosis of pancreatic lesions.

Key Word(s): 1. endoscopic; 2. FNA; 3. cytology;

PR0521
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
Src/STAT3 signaling pathways are involved in KAI1-reduced VEGF-C down-regulation in PC
Presenting Author: GUO XIAO-ZHONG
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Objective: To investigate the signaling pathways involved in KAI1-reduced vascular endothelial growth factor (VEGF-C) down-regulation and lymphatic metastasis in MIA PaCa-2 pancreatic cancer cells. Methods: MIA PaCa-2 pancreatic cancer cells were transfected with KAI1 by liposomes. The expression level of VEGF-C was assessed by Western blot. Levels of vascular endothelial growth factor (VEGF-C) secreted by cells was measured by enzyme-linked immunosorbent assay (ELISA). Src and STAT3 phosphorylation was detected by Western blot. Signaling transduction inhibitors, PP2 and AG490, were used to block Src and STAT3 signaling pathways, respectively. Results: KAI1 overexpression decreased VEGF-C expression and inhibited Src and STAT3 phosphorylation. PP2 pretreatment efficiently reversed the upregulation of Src and STAT3 phosphorylation and VEGF-C expression. AG490 pretreatment efficiently reversed the upregulation of STAT3 phosphorylation and VEGF-C expression, but not the upregulation in Src phosphorylation. Conclusion: This study identified that Src/STAT3 signaling pathways were involved in KAI1-reduced VEGF-C down-regulation and suggested their important roles in lymphatic metastasis in pancreatic cancer.

Key Word(s): 1. Pancreatic cancer; 2. KAI1; 3. VEGF-C; 4. Signaling pathways;

PR0522
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
The study on cell cycle and apoptosis effects induced by Beclin1-siRNA in pancreatic cancer cells
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Objective: To inhibit Beclin1 expression in pancreatic cancer cells MiaPaCa2 with small interfering RNA(siRNA), and explore its effect on cell cycle and apoptosis. Methods: Plasmid Beclin1 – siRNA were constructed and transfected into MiaPaCa2 cells. The expression of Slug was detected by RT – PCR and Western blotting. The cell cycle arrest and apoptotic rates of the cells were detected by flow cytometry. Results: There was a significant change in the cell cycle arrest of MiaPaCa2 cells after Beclin1 – siRNA transduction. But the apoptosis rate was not
Carcinoma of pancreas is meant to imply one of the most fatal cancers with poor prognosis. This study aimed to explain the roles and mechanisms of EBSP0 involved in pancreatic cancer. Methods: The quantum dot assay was used to detect EBSP0 expression in 40 samples with normal pancreatic tissues, 80 samples with pancreatic cancer tissues, 40 samples with L-PanIN tissues and 40 samples with H-PanIN tissues. The EBSP0 plasmid was transfected into PC cell line Panc-1, and CCK-8, colony-forming, flow cytometry and nude mice assays were performed to investigate the influence of EBSP0 over-expression on the growth of Panc-1 in vivo and in vitro. Finally, the protein levels of β-catenin, pRb, P27 and cyclin E were measured by western blot. Results: The relative values for NE, L-PanIN, H-PanIN and PC were 67.34 ± 2.69, 65.51 ± 1.92, 70.13 ± 2.61, and 36.81 ± 1.22 respectively. The H-PanIN tissues showed the highest EBSP0 expression (P < 0.05), while pancreatic cancer presented the lowest EBSP0 expression (P < 0.05). EBSP0 expression in PC tissues was significantly associated with TMN staging, differentiation level and lymph node metastasis (P < 0.05). Up-regulating EBSP0 significantly inhibited the growth, the colony-forming ability of cells and arrested the G1-to-S progression. Additionally, over-expression of EBSP0 attenuated β-catenin activity, and decreased cyclin E and p-Rb expression compared with controls. The volumes and mass of tumors induced by EBSP0-PANC-1 cells were significantly less than PANC-1 (P < 0.05). Conclusion: EBSP0 inhibits the proliferation through attenuating β-catenin activity and decreasing cyclin E and phosphorylated Rb expression in PC cells.

Key Word(s): 1. EBSP0; 2. PC; 3. Progression; 4. growth.

PR0524
Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)
The effects of HSP27 on gemcitabine-resistant pancreatic cancer cell line through snail

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Objective: Carcinoma of pancreas is meant to imply one of the most fatal type malignant tumors in Gastrointestinal system due to its insidious, aggressive and poor prognosis natures. Up to date, Gemicitabine (GEM) is considered as the first-line drug for the treatment of pancreatic cancer, even though, the chemoresistance of pancreatic cancer cell to Gemicitabine blocks the curative effects of current chemotherapeutic agents. Recent studies have indicated that Heat-shock protein 27(HSP27) plays a key role in gemicitabine-resistance of pancreatic cancer cells, but the underlying mechanism have not been clearly discussed. The purpose of this article is to create an elucidation of the regulation mechanism of HSP27 to the gemicitabine-resistance of pancreatic cancer cell. Methods: Use Western blotting to detect the expressions of HSP27, Snail, ERCC1 and E-Cadherin in GEM-sensitive parental SW1990 cells and resistant SW1990/Gem cells. The recombinant eukaryotic expression Vector pEGFP-C1-HSP27 was introduced into SW1990 cells. By using the same way, we transfected the eukaryotic expression vectors of small hairpin RNA (shRNA) targeting HSP27 into SW1990 and SW1990/GEM cells, and the Snail of miRNA has been locked down before we transferred into SW1990. The expressions of HSP27, Snail, ERCC1 and E-cadherin in transfected cells were all evaluated by Western blotting. The CCK-8 assay was employed to indicate the sensitivity of SW1990/HSP27, SW1990 shHSP27(+) and SW1990/GEM shHSP27(+) cells to gemicitabine compared with their control groups. Results: As compared to the parental SW1990, SW1990/GEM showed significantly increased expressions of HSP27, Snail, and ERCC1 with decreased number of E-cadherin revealed by Western Blotting. The both transfection processes of pEGFP-C1-HSP27 recombinant plasmid into SW1990 cells and pRNAi-rbsHSP27 shRNA vector into SW1990 and SW1990/Gem cells worked successfully. The Western blotting explored that after upregulating the HSP27 in SW1990 cells, the expression of Snail and ERCC1 were notably increased while the expression of E-cadherin was decreased dramatically. Furthermore, the expression of Snail and ERCC1 were decreased combined with the increased expression of E-cadherin following the downregulation of HSP27 which had statistically significance (P < 0.05). In terms of drug-sensitivity of pancreatic cancer cells to Gemicitabine, distinct decreasing the GEM-sensitivity of SW1990 cells was explored after upregulation of HSP17, vice versa, downregulation of HSP27 caused increasing GEM-sensitivity of both SW1990 and SW1990/GEM cells, the same results were equally applied to Snail expression. Conclusion: The experiment showed the inverse correlation between HSP27 expression and Gemicitabine-sensitivity of SW1990 in pancreatic cancer cells. It is suspected that Hsp27 can effect on Gemicitabine-sensitivity of pancreatic cancer cell SW1990 by regulating E-cadherin and ERCC1 which are proteins related to the epithelial mesenchymal transition (EMT) through Snail.

Key Word(s): 1. gemicitabine; 2. HSP27; 3. Snail; 4. ERCC1;
**PRO528**
**Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)**
**Study of Mina53 expression in human pancreatic cancer and its significance**

**Presenting Author:** XIAOPING TAN  
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**Affiliations:** Wuhan university

**Objective:** To observe the expression and distribution of Mina53 in pancreatic cancer, we analyze the relationship of expression and pancreatic cancer pathological features and discuss its clinical significance.

**Methods:** 96 cases of pancreatic cancer specimens, 34 cases of normal pancreatic tissue (from next pancreatic cancer biopsy and surgical resection) were collected, involving 61 cases of male and 35 females with an average age of 49.2 years (32–80). According to UICC new TNM staging criteria, those were divided into 28 cases of stage I, 43 cases of stage II, and 15 cases of stage III. 10 cases of stage IV. Quantum dot immunohistochemistry was exploited to detect Mina53, Ki67 and P53 expression in pancreatic cancer. To explore the role of Mina53 in human pancreatic cancer, we analysis the relationship of Mina53 expression with clinical and pathological features, tumor suppressor gene (P53) and tumor proliferative activity.

**Results:** Mina53 expression mainly located in the cell nucleus, there may also be a small number of cytoplasmic expression. There only two cases of positive expression of 34 cases of normal pancreatic tissue, and the two cases are weakly expression, the positive rate was 5.9%; 81 were positive in a total of 96 cases of pancreatic cancer, the positive rate was 84.4%, of which 13 cases +, 39 cases ++, 29 cases +++ +, 15 cases -. Mean rates of positive cell is 49.81 ± 19.67% (X ± s). Then the expression of Mina53 in pancreatic cancer was significantly higher than that of normal pancreatic tissue (P < 0.01). Relationship between Mina53 expression and pancreatic cancer clinicopathological features: Mina53 expression in pancreatic cancer was unrelated with gender, age, and distant node metastasis (P > 0.05). Mina53 expression increased with the progression of clinical stage. The respective periods of Mina53 expression rate is distinctive (2.5 = 8.446, P < 0.01), which is also associated with tumor tissue differentiation degree (2.5 = 4.992, P < 0.05) and lymph node metastasis (2.5 = 5.667, P < 0.05). P53 and Ki67 in pancreatic cancer are nuclear expression. P53 is positive in 80 cases (83.3%), of which Mina53 (+) / P53 (+) are 76 cases, Mina53(+)/P53(−) are 5 cases, Mina53(−)/P53(+) are 4 cases, Mina53 (−) / P53 (−) are 11 cases. In pancreatic cancer Mina53 expression and P53 protein accumulation was significantly correlated (2.5 = 41.102, P < 0.01). The LI mean value of Ki67 in Pancreatic cancer is 46.9 ± 19.1% (X ± s), which range is 11.7%–70.2%. Mina53 expression was positively correlated Ki67 LI value (r = 0.727, P < 0.01).

**Conclusion:** Mina53 may play an important role in the biological behavior of pancreatic malignant transformation, invasion and metastasis.

**Key Word(s):** 1. Pancreatic cancer; 2. prognosis; 3. survival;
**PR0529**
**Pancreas Cancer (IPMN, Pancreas Cancer, Cystic Neoplasms)**
Endoscopic ultrasound features of renal cell cancer metastases to the pancreas: a series of cases

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**Objective:** Metastases to the pancreas are clinically uncommon; however in a practice with a high volume of pancreatic EUS cases, a higher percentage are identified. The most common tumor to metastasize is renal cell carcinoma in most series. Our aim was to describe the endosonographic and some clinical features of a series of patients with pancreatic metastases. **Methods:** We describe the demographic, clinical and endosonographic features of a case series identified by an experienced endosonographer over a 15 year period. **Results:** A total of 24 cases were identified, 14 (63%) from renal cell carcinoma; 12 were men (85%), with a mean age of 53 y. The diagnoses were made a median of 8 y (3–20) after the initial tumor. All where asymptomatic save for one, which manifested as hemosuccus pancreaticus. 11 presented as the only metastatic site, 1 with lung metastases, 1 with multiple metastatic sites and 1 to the remaining kidney. Size was from 1.2–4 cm, 10 in the body/tail, 3 in the head (none jaundized) and 1 with multiple tumors. All hypoechoic, well demarcated and homogeneous by EUS. FNA was positive in 11 of 12 at first pass. None had a Karnovsky score lower than 90 or clinically advanced. Few had FU to establish final condition. **Conclusion:** Metastases to the pancreas are rare, and most are from renal cell carcinoma; interestingly, the great majority are asymptomatic and do not seem to produce systemic effects, so most patients seem well when diagnosed.

**Key Word(s):** 1. Pancreas; 2. EUS; 3. Endosonography; 4. Metastases;

**cytokeratin 19 (CK19), a marker of bipotent liver epithelial progenitors and immature biliary epithelial cells, were expressed in the epithelial cells of newly formed bile ducts and a population of hepatocytic-appearing cells in parenchyma. Notably, Nrf2-null mice showed higher hepatic protein expression of CK19 at 5 days following BDL, indicating earlier onset of the activation of CK19+ progenitor cells, than wild-types. CD133, a marker of liver progenitors, were found to be expressed by newly generated bile duct epithelial cells and a population of hepatocytic-appearing parenchymal cells in the livers of the two genotypes of mice. Hepatic CD133 protein expression was gradually elevated, paralleling continuous increase in the number of CD133+ hepatocytic-appearing cells, as the cholestasis progressed. Remarkably, lack of Nrf2 let to markedly higher magnitudes of the increases in hepatic CD133 protein level and in the number of CD133+ hepatocytic-appearing cells.**

**Conclusion:** Collectively, our data demonstrate that Nrf2 deficiency evokes higher activity of liver progenitor cells and thus stronger liver repair response.

**Key Word(s):** 1. Cholestasis; 2. Nrf2; 3. liver regeneration;

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**PR0531**
**Pancreas/Biliary System Surgery**
The application value of acute pancreatitis enhanced CT scan and CT severity index

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**Objective:** To discuss the optimal time of application enhanced CT in acute pancreatitis and the importance of CT severity index in evaluating the severity of acute pancreatitis. **Methods:** The scores of 181 cases of AP evaluated by CTSI scoring systems were retrospectively analyzed. To compared the relationship between CTSI and duration of hospitalization, pleural effusion and organ failure. **Results:** CTSI scores the severity into three levels, Level I: 0–3; rated its severity II class: 4 to 6; III: 7 to 10 points. >7 considered as acute pancreatitis, level III was analyzed with 40 patients, enhanced CT in 4–5 day showed the importance in early detection of the severity of the disease. The CTSI score has correlation with hospitalization time, pleural effusions and organ failure. **Conclusion:** Applying enhanced CT in 4–5 days is the best time for the acute pancreatitis patients, can diagnose the severity of acute pancreatitis. The higher CTSI score, the longer hospital stay, higher incidence of pleural effusion, and organ failure, the worse the prognosis.

**Key Word(s):** 1. Acute pancreatitis; 2. Enhanced CT scan; 3. CT severity Index; 4. pleural effusion;

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**PR0532**
**Pancreas/Biliary System Surgery**
Protective effect of methylprednisolone on the intestinal barrier function

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**Objective:** Intestinal barrier failure plays a critical role in systemic inflammation and pancreatic infection in severe acute pancreatitis (SAP).
Treatment with glucocorticoid extenuates intestinal barrier failure in SAP animal models, but the mechanism remains unclear. The present study aims to investigate the effects of methylprednisolone on the intestinal barrier function and its potential mechanisms in a SAP rat model.

Methods: Male SD rats (250–350 g) were randomized into 5 groups: Sham operation group (n = 8), Severe acute pancreatitis group (SAP, n = 40), and SAP rats intramuscularly injected with methylprednisolone (MePr, 15 mg/Kg or 30 mg/kg; n = 10 for each group) or with Sodium Chloride (NS; n = 20). SAP was induced by injection of sodium taurocholate through pancreatic duct (5% v/v). Rats were sacrificed for analysis at 24 h and 48 h after modeling. Serum was collected for amylase analysis. Pancreas and intestinal mucosa were collected for histological examination. Ussing chambers were used for detection of Intestinal mucosal barrier function in terms of transepithelial elect rical resistance (TER) and Horse Radish Peroxidase (HRP) transportation. Occludin expression in intestinal epithelia was analyzed by RT-PCR, Western blotting and immunohistochemistry.

Results: Compared to Sham group, the SAP rats showed a significantly higher level of serum amylase (9408 ± 1256 vs. 2676 ± 230, u/L, P < 0.01) and histological score (12.33 ± 0.93 vs. 1.08 ± 0.66, P < 0.01) 24 h after sodium taurocholate administration. In accordance with this, before obvious histological changes could be detected, TER of intestinal mucosa in SAP rats was significantly higher than Sham group (45.3 ± 4.3 vs. 36.06 ± 2.6 Ω.cm2, P < 0.01). Also, HRP transportation was obviously elevated in SAP rats (60.5 ± 5.6 vs. 20.4 ± 4.3 pmol/cm2.h, P = 0.015), suggesting an early increase of intestinal permeability. At 48 h, the intestinal mucosa of SAP rats showed significantly higher apoptotic epithelial cells compared to Sham group (63.3 ± 6.1 vs. 8.3 ± 1.8, P < 0.01) and lower occludin expression as evidenced by RT-PCR, western blot and IHC examination. Administration of methylprednisolone (15 mg/kg) reduced intestinal epithelial apoptosis (28 ± 3.2 vs. 60.1 ± 1.8, P < 0.01), induced occludin expression and decreased HRP transportation (66.4 ± 7.8 vs. 140.5 ± 12.3 pmol/cm2.h P < 0.01) at 48 h, as compared to NS injection. However, there were not significantly improvements in SAP rats received 30 mg/kg methylprednisolone considering the above parameters at each time points. Conclusion: The present study showed that low-dose of methylprednisolone played a protective role on intestinal barrier function in SAP rats. Up-regulation of occludin in the intestinal epithelium might contribute to this protection.

Key Word(s): 1. acute pancreatitis; 2. methylprednisolone; 3. intestinal barrier; 4. occludin;

PR0534
Pancreatitis (Acute, Chronic, Autoimmune)
The relationship between mediators and intestinal mucosal barrier in the acute pancreatitis in rats
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Objective: To discuss the correlation between the level of inflammatory mediators in serum and intestinal mucosal barrier damage of acute necrotizing pancreatitis (ANP) in rats
Methods: This study establish acute necrotizing pancreatitis rat model and observe the level of TNF-α, IL-6 and D-lactic acid in serum, histopathologic changes of intestinal mucosa and the water content of intestinal mucosa in the two groups at 6, 12, 24 h after establishment of model. The univariate analysis was used to compare the difference among groups. Linear correlation analysis was used to compare correlation between the level of TNF-α, IL-6 and D-lactic acid in serum, histopathologic scores of intestinal mucosa.

Results: The level of TNF-α and IL-6 in serum, D-lactic acid in serum and histopathologic scores of intestinal mucosa were all significantly higher in pancreatic duct injection group at each time point after establishment of model, (P < 0.05 vs sham-operated group respectively). There was a positive relationship between inflammatory mediators (TNF-α, IL-6) and D-lactic acid in serum obviously (P < 0.01), or between inflammatory mediators (TNF-α, IL-6) and histopathologic scores of intestinal mucosa (P < 0.01).

Conclusion: Intestinal mucosa barrier was injured in the early stage of acute necrotizing pancreatitis in rats, it is related to the increasing level of TNF-α, IL-6 in serum induced by SAP rats.

Key Word(s): 1. Acute pancreatitis; 2. Intestinal barrier; 3. mediators;
the prognosis and the severity of patients with SAP early, and can be used as the prognosis index at the same time. It is worth to popularized and applied.

**Key Words:** 1. Acute pancreatitis; 2. C reactive protein; 3. Diagnostic value; 4. prognosis;

**PR0536**

**Pancreatitis (Acute, Chronic, Autoimmune)**

To investigate the effect of genistein derived from soybean on rats with acute pancreatitis

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**Affiliations:** The Fourth Military Medical University; The Fourth Military Medical University

**Objective:** To investigate the effect of genistein derived from soybean on acute pancreatitis. **Methods:** 45 SD rats were randomly divided into 3 groups: three groups adopt arginine (2-amino-5-guanidinovaleric acid) acute pancreatitis model was induced by intraperitoneal injection, Control group were intragastric administration through the mouth in 100 g/kg soybean protein three times every day; Model groups were intragastric administration by in 2 ml in normal saline; Genistein groups was given 5, 7, 4′-triatomic isoflavone intragastric administration through the mouth in 100 mg/kg. Observation rat survival and death within 72 h of situation; Detecting survival rats 24 h, 48 h, 72 h of serum amylase levels, pancreatic tissue pathological index score is calculated. **Results:** Soybean protein group 6 h mortality rates is highest at 53%; Three hydroxyl groups of isoflavones 6-h cumulative mortality rate is only 6.7%, to 24 h for peak mortality (33.3%), compared with soybean protein group was significantly delayed, mortality in both groups had significant difference (p < 0.01). Three hydroxyl groups of isoflavones survival rats 24 h, 48 h, 72 h serum amylase activity was significantly lower than soybean protein group (1830 ± 325 vs. 2667 ± 262 U/L, p < 0.01), (1744 ± 321 vs. 2935 ± 301 U/L, p < 0.01), (1319 ± 338 vs. 2725 ± 235 U/L, p < 0.05). **Conclusion:** Through stomach perfusion genistein can delay the peak of death of rats with acute pancreatitis, improve the survival rate of rats, and inhibit the serum pancreatic amylase activity, probably by reduce pancreatic inflammation and play an important role.

**Key Words:** 1. Acute pancreatitis; 2. Genistein; 3. Soybean protein; 4. Rats;

**PR0537**

**Pancreatitis (Acute, Chronic, Autoimmune)**

The analysis and treatment of mild acute pancreatitis patients with serum amylase undropping

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**Affiliations:** General Hospital of Shenyang Military Area Command

**Objective:** To investigate the reasons why serum amylase did not drop in the patients with mild acute pancreatitis, and provide reference for prevention and treatment of mild acute pancreatitis. **Methods:** The clinical data of 307 cases with mild acute pancreatitis in our hospital were retrospectively analyzed. **Results:** The main reasons of serum amylase undropping for the patients with mild acute pancreatitis were etiology existing, eating improperly, exacerbating of acute pancreatitis, special type of acute pancreatitis and accompanied by other diseases. **Conclusion:** It is critical for the rehabilitation of patients with mild acute pancreatitis to observe and analyze the causes of serum amylase unfalling and take effective measures to deal with.

**Key Words:** 1. acute pancreatitis; 2. serum amylase; 3. analysis; 4. treatment;

**PR0538**

**Pancreatitis (Acute, Chronic, Autoimmune)**

The role of advanced oxidation protein products in patients with acute pancreatitis

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**Objective:** To investigate the relationship between AOPP and severity of AP by detecting serum levels of AOPP in patients with AP, combination the results of serum interleukin-6(IL-6), indicators which associated with disease severity and clinical datas. **Methods:** Fifty-eight patients who were diagnosed acute pancreatitis in our hospital from November 2010 to September 2012 were collected[18 cases with severe acute pancreatitis (SAP) and 40 cases with mild acute pancreatitis (MAP)]. Serum levels of AOPP and IL-6 were detected by enzymelinked immunosorbent assay (ELISA) within 24 hours. Blood samples were sent to the laboratory to detect blood routine, liver function, renal function, blood calcium, blood glucose and actate dehydrogenase. APACHE II scores, Ranson scores, CTSI scores, BISAP scores and Glasgow scores were also determined. **Results:** 1. Serum levels of WBC, GLU, LDH in SAP group were higher than MAP group (P < 0.05). ALB and blood calcium in SAP group was lower than MAP group (P < 0.05). 2. Serum levels of BUN, Cr, blood amylase were no significant difference between SAP group and MAP group (P > 0.05). 3. In SAP group and MAP group, APACHE II scores were (5.00 ± 3.67) and (3.39 ± 2.91), Ranson scores were (2.04 ± 1.46) and (1.33 ± 1.21), CTSI scores were (5.87 ± 1.46) and (1.20 ± 1.26), BISAP scores were (1.52 ± 0.80) and (0.86 ± 0.76), Glasgow scores were (2.61 ± 1.20) and (1.24 ± 1.12), respectively, and SAP group was higher than MAP group (P < 0.05). 4. Serum levels of AOPP in SAP group and MAP group were (38.1156 ± 11.67)ng/ml and (29.40 ± 14.19)ng/ml, respectively, and SAP group was higher than MAP group (P < 0.05). 5. There are relations between AOPP and WBC, GLU (P < 0.05), but no relations with LDH, blood calcium, ALB, BUN, Cr and blood amylase (P > 0.05). **Conclusion:** Serum levels of AOPP may be associated with the severity of AP; AOPP may be associated with the process of inflammatory response in the occurrence and development of AP; AOPP and indicators which associated with disease severity may be used as markers to estimate the severity in AP.

**Key Words:** 1. acute pancreatitis; 2. AOPP; 3. IL-6;

**PR0539**

**Pancreatitis (Acute, Chronic, Autoimmune)**

The synergic protective effects of 3-MA with PDTC on acute necrotizing pancreatitis in rats

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**Additional Authors:** YUANXIAO LING, YANGSHU LI

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**Objective:** The study was to preliminary investigate to the synergic protective effects of autophagy inhibitors (3-methyladenine,3-MA) with NF-κB inhibitor (pyrroloidinedithiocarbamate, PDTC) on the APN in rats. **Methods:** Ninety Sprague-Dawley rats were randomized into SO group...
NF-κB

To observe the expression of ghrelin, NF-κB, GHSR, NF-κB inhibitor (PDTC), and reducing the secretion of proinflammatory cytokines.

Conclusion:
(1) The expression of ghrelin and GHSR of pancreas may associated with the level of pancreas injury in acute pancreatitis; (2) The activation of NF-κB and the expression of inflammatory factors promote the Injury process of ANP; (3) Ghrelin- GHSR might be the self protection system in pancreas, plays an important role of anti-inflammatory in acute necrotizing pancreatitis, by inhibiting the activation of NF-κB, and reducing the secretion of proinflammatory cytokines.

Key Words: 1. acute pancreatitis; 2. ghrelin; 3. nuclear factor-κB;

PR0541
Pancreatitis (Acute, Chronic, Autoimmune)
Evaluation of the 4 score systems in predicting severity and prognoses of acute pancreatitis

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Objective: To assess the accuracy of four clinical diagnostic criteria systems [Ranson, Glasgow, APACHE II and BISAP] in the prediction of severity acute pancreatitis.

Methods: 225 patients with acute pancreatitis were retrospectively studied with these four criteria systems. The sensitivity, specificity, PPV, NPV and the combine with multiple organ failure of severe acute pancreatitis of these four systems were assessed.

Results: Among 225 patients, mild pancreatitis was identified in 188 patients, and severe pancreatitis in 37 patients. The mean scores of Ranson, Glasgow, APACHE II, BISAP between mild pancreatitis and severe pancreatitis were statistical and significant difference (p < 0.01). The scores of the four systems were correlated significantly with multiple organ failure. The sensitivity and specificity of APACHE II were the highest (76% and 72%) in predicting severe acute pancreatitis outcomes.

Conclusion: Four scoring methods have different characteristics. The accuracy may be improved by the comprehensive assessment in predicting the severity of the disease.

Key Words: 1. Pancreatitis; 2. Diagnostic criteria; 3. Sensitivity; 4. Specificity;
PR0542
Pancreatitis (Acute, Chronic, Autoimmune)
Clinical features of patients with painless acute pancreatitis
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Affiliations: General Hospital of Shenyang Military Area Command

Objective: To improve the diagnosis level of painless acute pancreatitis.
Methods: We collected the clinical data of 13 patients with painless AP and compared them with that of pain AP patients. Results: Painless AP was misdiagnosed sometimes. Serum levemems of amylase and lipase should be tested with patients of of abdominal distension or discomfort. CT scan should also be done. Painless AP showed more severe compared with patients of pain AP (P < 0.05), and painless AP needed longer time in hospital (P < 0.05). Conclusion: The diagnosis of painless AP should be considered, and CT scan is valuable for correct diagnosis.
Key Word(s): 1. Acte pancreatitis; 2. painless; 3. symptom; 4. diagnosis;

PR0543
Pancreatitis (Acute, Chronic, Autoimmune)
Clinical features of patients with misdiagnosed acute pancreatitis
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Objective: To improve the diagnosis level of acute pancreatitis (AP), we investigated the clinical features of AP patients who were misdiagnosed initially. Methods: We collected the clinical data of 24 AP patients who were misdiagnosed on admission and analyzed causes of misdiagnosis. Results: There were 24 cases of AP patients misdiagnosed initially in total 600 cases of AP patients with a misdiagnosis rate of 4.0%. 24 patients were misdiagnosed as gastritis (2 cases), reflux esophagitis (1 case), perforation of duodenal ulcer (1 case), incomplete intestinal obstruction (1 case), acute cholecystitis and cholelithiasis (4 cases), pancreatic mass (4 cases), coronary heart disease (2 cases), diabetes mellitus (3 cases), hematoma surrounding spleen (1 case), postoperative gastric cancer (1 case), liver damage (2 cases), ulcerative colitis (1 case), ascites (1 case). Conclusion: The causes of misdiagnosis in AP were complicated. To avoid misdiagnosis, we should inquire detailed disease history and take physical examination carefully, pay attention to uncommon types of AP and analyze the auxiliary examination fully and dynamically.
Key Word(s): 1. Pancreatitis; 2. Misdiagnosis; 3. Painless; 4. Symptoms;

PR0544
Pancreatitis (Acute, Chronic, Autoimmune)
Regulation of the M2 kupffer cells by IL-4 and Treg on severe acute pancreatitis in mice
Presenting Author: CAIHONG DENG
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Objective: To investigate the effective method of inducing severe acute pancreatitis with cerulein plus lipopolysaccharide (LPS) and the regulation of the M2 anti-inflammatory kupffer cells by IL-4 and CD4+CD25+ FoxP3+ regulatory T cells on severe acute pancreatitis in mice.
Methods: Normal group was induced by intraperitoneal injection of saline; model group was induced by intraperitoneal injection of cerulein plus LPS. Model group was divided into three groups: 9 h, 12 h and 24 h groups after induction of SAP. Histopathological alterations of pancreatic tissues were evaluated among these three groups. 2. Expressions of inflammatory cytokines mRNA in liver tissues were assessed by real-time fluorescent quantitative reverse transcriptase polymerase chain reaction (RT-PCR) between normal group and SAP8h+NS group. The mice of SAP models were divided into three groups in accordance with the intravenous injection of the different solutions: SAP with saline injection group, SAP with IL-4 injection group and SAP with Treg injection group. Expression of IL-1β, TNF-α and IL-10 mRNA in liver tissues were assessed by RT-PCR; Expressions of CD163 and CCR7 in liver were assessed by confocal immunofluorescence microscopy. Results: 1) The results of HE staining: pancreatic edema, inflammation and acinar cell necrosis in 24 h groups after induction of SAP. 2) The expressions of IL-1β and TNF-α mRNA in liver tissues of SAP8h+NS group were significantly higher than those of normal group (P < 0.1). 3) The expressions of IL-1β mRNA in liver tissues of SAP16h+Treg group and SAP16h+ IL-4 group were significantly lower than those of SAP16h+NS group (P < 0.1); The expression of TNF-α mRNA in liver tissues of SAP16h+Treg group and SAP16h+ IL-4 group were significantly lower than those of SAP16h+NS group (P < 0.1); The expression of TNF-α mRNA in liver tissues of SAP16h+Treg group and SAP16h+ IL-4 group were significantly lower than those of SAP16h+NS group (P < 0.05); The expression of IL-10 mRNA in liver tissues of SAP16h+Treg group and SAP16h+ IL-4 group were significantly lower than those of SAP16h+NS group (P < 0.05). Conclusion: The expression of TNF-α mRNA in liver tissues of SAP16h+Treg group and SAP16h+ IL-4 group were significantly lower than those of SAP16h+NS group. It is an effective method using cerulein plus LPS to induce severe acute pancreatitis in mice. Kuffer cells are very important in the development of SAP. IL-4 and Treg promote the expression of the M2 anti-inflammatory kupffer cells, and the down-regulation of TNF-α, IL-1β and CCR7 and up-regulation of IL-10 and CD163 suggest IL-4 and Treg have therapeutic effects on SAP.
Key Word(s): 1. IL-4; 2. SAP; 3. Treg; 4. Kuffer cell;

PR0545
Pancreatitis (Acute, Chronic, Autoimmune)
preventing post-endoscopic retrograde cholangiopancreatography pancreatitis: a meta analysis
Presenting Author: JIANG DAN
Additional Authors: LAIMING YU
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Affiliations: guangxi medical university

Objective: To assess the effectiveness and safety of indomethacin in preventing post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP). Methods: The electronic searches were conducted to retrieve Randomized controlled trials (RCTs) from the PubMed, Medline, CBM and CNKI Data. All the RCTs comparing indomethacin to placebo in prevention of PEP were identified and retrieved. Data collection and literature evaluation were performed by two reviewers independently. Review Manager 5.0 was used for statistical analysis. Results: A total of 11 RCTs involving 2718 ERCP patients were included. The Meta-analysis showed that indomethacin can reduce the incidence of PEP (OR = 0.38, 95% CI 0.28 to 0.52, P < 0.00001), and also can reduce the incidence of hyperamylasemia (OR = 0.50, 95% CI 0.37 to 0.67, P < 0.00001). Conclusion: Indomethacin was safe and effective in reducing the incidence of PEP and hyperamylasemia.
Key Word(s): 1. Post-ERCP; 2. Hyperamylasemia; 3. Indomethacin; 4. Meta analysis;
**PR0546**

Pancreatitis (Acute, Chronic, Autoimmune)

T cells and B cells play different roles in a mice model of acute pancreatitis

**Presenting Author:** BIN YANG  
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**Affiliations:** Fourth Military Medical University

**Objective:** Few data are currently available on the effects of different lymphocyte subsets in acute pancreatitis. The aim of this study was to characterize their roles in the inflammatory cascade during acute pancreatitis. **Methods:** Acute pancreatitis was induced by intraperitoneal injections of cerulein in T cell-deficient (nude, n = 24) mice and wild-type control (BALB/c, n = 24) mice; B cell-deficient (CBA/n, n = 24) mice and wild-type (CBA/cj, n = 24) mice; and T and B cell-deficient (SCID, n = 24) mice and wild-type (C, B-17, n = 24) mice. At 6, 12, 24, and 48 h after induction with cerulein, the severity of acute pancreatitis was assessed using amylase assays, edema evaluation, and histology. The role of B lymphocyte-regulated immunity was explored using the percentage of B10-cells by flow cytometry. Inflammation was evaluated by measuring interferon gamma (IFN-γ) and tumor necrosis factor alpha (TNF-α) levels in serum. **Results:** In T cell-deficient mice and T and B cell-deficient mice, serum amylase levels, pancreatic edema, and histological lesions were significantly decreased compared to controls. The expression of TNF-α and IFN-γ was reduced in mice with caerulein-induced AP, whereas they were significantly increased in B cell-deficient mice with caerulein-induced AP. Furthermore, fewer B10-cells were detected in mice with AP than control mice. In addition, T cell-deficient mice and T and B cell-deficient mice had significantly reduced lung injury compared to wild-type controls. In contrast, severe lung injury was observed in B cell-deficient mice compared to controls, but the results were not statistically significant. **Conclusion:** T lymphocytes promote the development of pancreatic lesions in acute pancreatitis, but B lymphocytes mainly act to regulate immune response and reduce inflammation during the early course of AP through the functions of B10-cells.

**Key Word(s):** 1. acute pancreatitis; 2. T cells; 3. immune response; 4. mice;

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**PR0547**

Pancreatitis (Acute, Chronic, Autoimmune)

Analysis of continuous renal replacement therapy in patients with severe acute pancreatitis

**Presenting Author:** ZHANG NING-NING

**Affiliations:** General Hospital of Shenyang Military Area Command

**Objective:** To analyze the effect and safety of continuous renal replacement therapy (CRRT) in the treatment of severe acute pancreatitis (SAP) patients. **Methods:** Continuous renal replacement therapy was performed in 21 patients with SAP from 2008 to 2012. Clinical signs, serum urea nitrogen (BUN), creatinine (Scr), amylase, lipase, C-reactive protein and lactic acid were compared before and after treatment. **Results:** Among 21 patients, 3 patients were cured, 14 patients relieved and 4 patients died. There were remarkable improvement in the abdominal pain, pancreatic encephalopathy, pleural effusion and renal injury. Compared with those before treatment, clinical signs, white blood cell (WBC) count, biochemistry indicato, serum urea nitrogen (BUN), creatinine (Scr), amylase, lipase, C-reactive protein, lactic acid were decreased significantly (p < 0.05). The mortality was also decreased, prognosis was improved. **Conclusion:** Continuous renal replacement therapy was safe and effective in severe acute pancreatitis patients.

**Key Word(s):** 1. SAP; 2. CRRT; 3. treatment;

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**PR0548**

Pancreatitis (Acute, Chronic, Autoimmune)

The character of complication and therapy of severe acute pancreatitis

**Presenting Author:** BAI YI-TONG

**Affiliations:** General Hospital of Shenyang Military Area Command

**Objective:** To research the character of complication and therapy of severe acute pancreatitis in aging group and non aging group. **Methods:** Seventy-three patients of severe acute pancreatitis were divided into aging group (group I, ≥65) and non aging group (group II, <65), and the prevalence and incidence of complications were compared between the two groups. **Results:** The prevalence of SAP in group I was different from group II. In non aging group, the prevalence in male was higher than female, and in aging group, the prevalence in female was higher than male. The incidence of electrolyte disturbance, respiratory failure, renal failure, heart failure and alimentary tract hemorrhage in group I was different from group II, P < 0.05. But the incidence of dropsy of serous cavity and infectious shock had no difference, P > 0.05. **Conclusion:** In the patients of severe acute pancreatitis, the prevalence and the incidence of electrolyte disturbance, respiratory failure, renal failure, heart failure and alimentary tract hemorrhage were different between the two groups. But the incidence of dropsy of serous cavity and infectious shock between the two groups had no difference.

**Key Word(s):** 1. SAP; 2. complication; 3. aging group;
PR0549
Pancreatitis (Acute, Chronic, Autoimmune)
Management of severe acute pancreatitis: the role of hospital volunteer services
Presenting Author: YE FAN
Additional Authors: WANGNONG RONG, ZOUDE FENG
Corresponding Author: YE FAN
Affiliations: Nanchang University

Objective: Severe acute pancreatitis (SAP) is a common disease with high morbidity and high mortality. After average one-month hospital stay, patients with SAP normally have a lengthy recovery period, during which hospital volunteer services could play critical roles to prevent relapse and ensure successful treatment. Objectives: To evaluate the role of hospital volunteer services in the treatment of severe acute pancreatitis.

Methods: After hospital discharge, fifty-seven patients with SAP were randomly divided into two groups. Thirty-one patients in the control group received regular supportive care. Besides that, additional hospital volunteer services were offered to the patients (26 cases) in the treatment group on a weekly basis. The volunteers visited patients, providing comprehensive health care, emotional support, and positive encouragement. Health progress of all the patients had been continuously monitored for three months. Results in stool analysis, blood glucose test, and ultrasonographic examination were monthly tracked and statistically analyzed so as to confirm the effectiveness of hospital volunteer services.

Results: Of patients studies, 35% in the control group and 72% in the treatment group stayed negative (P < 0.05) in the stool tests. 59% in the control group exhibited high fasting blood sugar (> 6.1 mmol/L), whereas it was only 28% in the treatment group (P < 0.05). Recurrence of pseudocyst was less than 20% in both groups (16% in the control group, and 12% in the treatment group), and the difference was not statistically significant (P > 0.05). Additionally, survey showed 34% and 98% patient satisfaction rate in the control and treatment group, respectively (P < 0.05).

Conclusion: After hospitalization, patient with SAP are at high risk of readmission due to the limitation of knowledge, care resources, and physical activity. The study here demonstrated patient outcomes had been significantly improved if hospital volunteer services were provided in the early post-discharge period. It suggested the gap in care after discharge could be covered by hospital volunteer services.

Key Word(s): 1. Volunteer services; 2. SAP; 3. Recovery; 4. Recurrence;

PR0550
Pancreatitis (Acute, Chronic, Autoimmune)
Clinical study on nutrition support in patients with severe acute pancreatitis
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Additional Authors: GUO XIAO-ZHONG
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Objective: To investigate the effect of nutritional support on severe acute pancreatitis. Methods: From 2010 to now, 42 patients with severe acute pancreatitis were retrospectively analyzed in our department. 22 cases received total parenteral nutrition (TPN) via central venous infusion, while parenteral nutrition (PN) and enteral nutrition (EN) therapies were applied for the other 20 cases. The mortality, hospitalization costs and other indexes were monitored.

Results: The mortality, hospitalization and hospitalization costs in group PN + EN was significantly lower than group TPN. Conclusion: Severe acute pancreatitis patients should receive enteral nutrition support as early as possible.

Key Word(s): 1. SAP; 2. enteral nutrition; 3. parenteral nutrition;

PR0551
Pancreatitis (Acute, Chronic, Autoimmune)
Distinctive clinical profile of hyperparathyroidism related chronic pancreatitis
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Additional Authors: DEEPAK BHASIN, SURINDERS RANA, CHALAPATHI RAO, SANJAYK BHADADA, ANILK BHANSALI, HARSH UDAWAT
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Objective: Chronic pancreatitis (CP) is commonly caused by alcohol ingestion and a large number of patients have no identifiable cause and are labeled as idiopathic. Primary hyperparathyroidism (PHPT) is a rare cause of chronic pancreatitis that has distinctive clinical and investigational profile. It is a potentially reversible cause that should be diagnosed early and treated promptly. There is limited data in the published literature highlighting the important differences in the clinical and laboratory parameters among various etiologies of CP. We conducted a retrospective analysis comparing the clinical and laboratory profile of chronic pancreatitis due to primary hyperparathyroidism with that of idiopathic and alcohol related CP.

Methods: The records of CP patients were reviewed and the clinical, radiological and biochemical features of PHPT related CP were retrieved. They were compared with age-matched patients with alcohol related CP (ALCP) related and idiopathic CP (ID-CP). Results: There were 405 patients of CP who attended our hospital between 1999 and 2012 and 14(3.45%) patients had PHPT. Certain clinical and radiological features like renal colic, nephrolithiasis, bone disease, palpable neck nodule, psychiatric abnormalities, and diabetes mellitus were significantly more common in patients of PHPT. Pancreatic calcifications were more common in PHPT-CP compared to ALCP-CP and ID-CP. The corrected calcium and serum intact parathormone levels (iPTH) levels were significantly higher and serum phosphate levels were significantly lower in PHPT-CP compared to ALCP-CP and ID-CP groups. The differences in the clinical, radiological and laboratory profile between the 3 etiological groups of CP is presented in Table 1. Eleven of the 14 cases with PHPT related CP underwent parathyroidectomy. One patient died before surgery due to end-stage renal disease. Two patients did not undergo surgery and were subsequently lost to follow up. All of them had single parathyroid adenoma. They were followed up for a mean (± SD) 37.2 ± 23.07 months (6 months to 6 years). One patient had acute exacerbation of CP in the year following parathyroidectomy which was managed conservatively with no further recurrences. Conclusion: Primary hyperparathyroidism related CP has a distinct clinical profile compared to alcoholic and idiopathic CP which helps in the etiological workup for non-alcoholic CP. Parathyroidectomy is an effective treatment modality to control pancreatitis and arrests future exacerbations.

Key Word(s): 1. pancreatitis; 2. stent; 3. parathyroidectomy; 4. idiopathic;
Table 1: Clinical, Radiological and Laboratory Profile of the 3 Etiological Groups of Chronic Pancreatitis

|                      | PHPT-CP (n = 14) | ALC-CP (n = 14) | ID-CP (n = 14) | p value |
|----------------------|------------------|----------------|---------------|---------|
| Age in yrs (Mean ± SD) | 43.5 ± 11.31     | 42.3 ± 6.3      | 39.3 ± 13.15  | 0.569   |
| Sex (M:F)            | 9:5              | 14:0            | 7:7           | 0.011   |
| Renal colic          | 9                | 0               | 0             | <0.001  |
| Nephrolithiasis      | 10               | 0               | 0             | <0.001  |
| Nephrocalcinosis     | 5                | 0               | 0             | 0.003   |
| Bone disease         | 4                | 0               | 0             | 0.012   |
| Palpable neck nodule | 4                | 0               | 0             | 0.012   |
| Psychiatric abnormalities | 6            | 0               | 0             | 0.001   |
| Steatorrhea          | 8                | 3               | 2             | 0.03    |
| Diabetes Mellitus    | 8                | 3               | 3             | 0.052   |
| Calcification        | 2                | 2               | 1             | 0.096   |
| Pseudocyst           | 4                | 6               | 1             |         |
| Serum Calcium (mg/dL)| 11.2 ± 1.35      | 9.1 ± 0.46      | 9.3 ± 0.58    | <0.001  |
| Serum Phosphate (mg/dL)| 2.9 ± 0.59       | 3.6 ± 0.58      | 3.4 ± 0.54    | 0.005   |
| Serum iPTH (pg/mL)   | 369.4 ± 201.59  | 26.8 ± 10.92    | 50.2 ± 56.49  | <0.001  |

PR0552
Pancreatitis (Acute, Chronic, Autoimmune)
Autoimmune pancreatitis clinical analysis in 4 cases
Presenting Author: MENQUE XU
Additional Authors: XIN CHEN, BANGMAO WANG
Corresponding Author: BANGMAO WANG
Affiliations: Tianjin Medical University General Hospital

Objective: To explore the clinical characteristics and treatment of autoimmune pancreatitis (AIP). Methods: Clinical data combined with laboratory, radiological detection et al. were analyzed retrospectively from four patients with AIP admitted by our hospital from October 2008 to January 2013. Kim criteria was used as a diagnostic criteria for AIP and all cases were given relevant treatment. Results: Clinical manifestations: jaundice (2/4), abdominal discomfort (3/4), hyperglycemia (3/4). Laboratory examinations: serum IgG elevated in all cases, antinuclear antibody positive (1/4). Computed tomography (CT) performance: pancreas diffused enlargement (3/4) and localized enlargement (1/4). Magnetic Resonance Cholangiopancreatography (MRCP) performance: intrapancreatic segment of common bile duct narrow (1/4), hepatic ducts and superior pancreatic segment of common bile duct dilation (1/4), intrahepatic and hilar bile duct segmental stenosis. 3 cases were given glucocorticoid treatment, 1 case was given ursodeoxycholic acid. After treatment, the clinical symptoms (jaundice, abdominal discomfort) disappeared; Blood glucose were under control (3/3) and declined to normal (2/3); IgG decreased obviously; Enlarged pancreas recovered; Bile ducts stricture improved. Conclusion: AIP has no specific presentations. The diagnosis of AIP should be comprehensively analyzed by clinical features, serological, radiological, histological detections and the response to glucocorticoid treatment.
Key Word(s): 1. pancreatitis; 2. IgG4-related disease; 3. diagnosis; 4. treatment;

PR0553
Pancreatitis (Acute, Chronic, Autoimmune)
The effect of combined ulinastatin and octreotide in treatment of severe acute pancreatitis
Presenting Author: ZHENG YAOCHU
Corresponding Author: ZHENG YAOCHU
Affiliations: ying tan people’s hospital

Objective: To investigate the clinical effects of ulinastatin and octreotide in the treatment of severe acute pancreatitis. Methods: 48 SAP cases which from the people’s hospital of ying tan city were analysed. All the cases were diagnosed with the guidelines for diagnosis and treatment of acute pancreatitis of china in 2004(draft). The 48 cases were divided into control (24 cases) and test (24 cases) group. The control group used routine treatment and octreotide 0.3 mg + NS250 ml pump (25 ug/h, q12 h). However, the test group added the ulinastatin 100 000 U + NS500 ml ivgtt (bid). Then analysed the course of the bowel sounds recover, abdominal pain and abdominal tenderness relieve. Results: Compared to the control group, the course of the bowel sounds recover, abdominal pain and abdominal tenderness relieve all were significantly accelerated in the test group (P < 0.05). Conclusion: Combined ulinastatin and octreotide can significantly improve clinical efficacy in treatment of SAP.
Key Word(s): 1. ulinastatin; 2. octreotide; 3. pancreatitis;

PR0554
Pancreatitis (Acute, Chronic, Autoimmune)
Early predictive values of the combined detection of serum calcium and CRP in the severity of acute pancreatitis
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Affiliations: ying tan people’s hospital

Objective: To investigate the early predictive values of the combined detection of serum calcium and C-reaction protein (CRP) in the severity of acute pancreatitis (AP). Methods: The serum calcium and C-reaction protein were monitored on days 1, 2, 3 and 4 in 50 patients with mild acute pancreatitis (MAP) and 20 patients with severe acute pancreatitis (SAP). Furthermore, the diagnostic sensitivity, specificity and area under curve...
In the treatment of severe acute pancreatitis, rhubarb can play an additional role in the treatment of severe acute pancreatitis.

**Key Words:** 1. acute pancreatitis; 2. rhubarb;
groups (P > 0.05). Serum levels of IL-6, IL-15 and MIF were all reduced after treatment in two SAP groups, the integrated tcm-wm group were lower than western medicine group. The two groups have a lowest levels at the time of 7d. If we have a statistically significant difference between the two SAP groups [IL-6 (ng/L): 246.34 ± 86.65 VS 724.88 ± 110.89; IL-15 (ng/L): 158.81 ± 50.63 VS 403.04 ± 134.83; MIF (ng/L): 121.90 ± 29.48 VS 240.60 ± 67.36, P < 0.05]. The serum levels of IL-6 and IL-15 in integrated tcm-wm group at each time point were significant lower than western medicine group (P < 0.05). The serum concentration of MIF in integrated tcm-wm group was significant lower than western medicine group after admission 5d and 7d (P < 0.05). The time of rigitus recovery, local symptom relief of abdominal pain, distension and symptom relief of abdominal tenderness was much shorter than western medicine group [IL-6 (ng/L): 88.53 ± 31.71 VS 128.00 ± 30.92 (h); 95.87 ± 32.56 VS 149.33 ± 35.89 (h); 137.07 ± 41.67 VS 191.87 ± 32.08 (h); 128.93 ± 40.60 VS 189.73 ± 33.31 (h), P < 0.05]. Two groups of patients were die in western medicine group (2/15). There was no patients died in integrated tcm-wm group (0/15). But the two groups have not statistically significant difference (P > 0.05). Conclusion: The therapeutic effect of integrated tcm-wm for treatment of SAP is superior to that of the western medicine alone. The mechanism of action of Chai shao cheng qi Decoction was likely to be concerned with reducing the serum level of IL-6, IL-15 and MIF.

**Key Word(s):** 1. acute pancreatitis; 2. IL-6; 3. IL-15; 4. MIF;

**PR0560**

**Pancreatitis (Acute, Chronic, Autoimmune)**

The research of severe acute pancreatitis complicated with acute left heart failure

**Presenting Author:** YU CHEN

**Additional Authors:** HEPING CHEN, DONGYUAN SU

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**Affiliations:** Chongzhou People’s Hospital; Chongzhou People’s Hospital

**Objective:** Severe Acute Pancreatitis (SAP) is an emergent and Severe disease with high mortality. SAP with acute left heart failure (ALHF) has higher mortality, but SAP with ALHF has rarely been reported. So discussing the SAP with acute left heart failure has important significance for clinical rescue.

**Methods:** 310 cases of Acute Pancreatitis were received and treated in Chongzhou People’s Hospital during 2011–2012. Among them, 60 cases were SAP. 25 cases of the 60 SAP had with ALHF, the incidence was 41.7%. 25 case of SAP with acute left heart failure group included 13 cases of Male and 12 cases of female, the age from 20 to 90 and mean age: 50.9. The transfusion quantity of acute left heart failure group was 2498.3 ml/day, but with no acute left heart failure group was 2107.5 ml/L (P < 0.05). The level of triglycerides of acute left heart failure group was 13.46 mmol/L but without acute left heart failure group was 7.4 mmol/L (P < 0.05). The White blood cells of acute left heart failure group was 17.3x10^9/L but with no acute left heart failure group was 13.2x10^9/L (P < 0.05). The two groups in age, sex, causes had no significant difference. Conclusion: From our data, the rate of patients with SAP had acute left heart failure is very high. If the infusion quantity exceeds 2500 ml/day, we should pay attention to the possibility of inducing acute left heart failure. The white blood cell count and the serum of triglyceride level of SAP patients complicated with acute left heart failure were significantly increased.

**Key Word(s):** 1. SAP; 2. Heart Failure;
treated with Chinese patent medicine “Er Xie Ting” (treatment group) and smectite powder (control group) The therapeutic efficacy and adverse drug reactions were evaluated after three-day and seven-day therapy. Results: 1458 children completed the study, in which 726 children received Chinese patent medicine “Er Xie Ting” and 732 received smectite powder. 31 children (2.1%) were excluded from clinical trial. Both groups were similar in age distribution, gender, weight, duration of diarrhea, degree of dehydration, rotavirus infection rate (P > 0.05). After three-day and seven-day therapy, cure rates and total efficacy rates of the treatment group were 44.2%, 94.1%, 88.8%, 97.9% separately and higher than those of control group (39.3%, 88.4%, 83.9%, 97.4%) (Z = 3.2, P < 0.01). There were 520 children with rotavirus infection and in which 266 cases received Chinese patent medicine “Er Xie Ting” and 254 received smectite powder. For rotavirus enteritis, cure rates and total efficacy rates of the treatment group after three-day and seven-day therapy were 40.6%, 95.1%, 89.9%, 98.9% separately and higher than those of control group 26.4%, 86.2%, 78.8%, 96.8% (Z = 4.8, P < 0.01). The lower limits of the 95% confidence interval of difference of cure rate and total efficacy rates after three-day and seven-day therapy between two groups were –0.16%, 2.81%, 1.38%, –1.05%. For rotavirus enteritis, the lower limits of the 95% confidence interval were 6.21%, 5.69%, 4.91%, 0.47%. All of the lower limits were less than 10%. No obvious drug related adverse reactions was found during the study. Conclusion: Chinese patent medicine “Er Xie Ting” has the same effect for treatment of acute diarrhea and rotavirus enteritis in children. No obvious drug related adverse reactions was found.

Key Word(s): 1. Diarrhea; 2. Infantile; 3. Efficacy; 3. Children;

PR0562
Pediatric Gastroenterology and Hepatology
Nutritional data of cystic fibrosis (CF) patients in Saudi Arabia
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Objective: CF has been reported before in Saudi Arabia, but updated nutritional data is insufficient. In this report we discuss the detailed nutritional data of CF patients in a tertiary care center in Saudi Arabia form the period 1995–2011. Methods: A retrospective chart review of all confirmed CF patients in relation to their weight and height and their growth progress over the period of follow-up. Correlation of the Cystic fibrosis transmembrane regulator gene mutation (CFTR) to their nutritional status. Results: of 317 CF patients diagnosed, 85% are alive, and 15% have died. Age at diagnosis is 0.1 ± 4, and age at follow-up is 18 ± 4. Median survival of 22 years. Seventy five (75%) of the patients their height for height were at the mild to severe malnutrition stage and 73% have stunted growth. Nutritional intervention with oral feeding and high caloric intake improved their Z-score in the first 6 month, but plateaued thereafter. Most parents refused Naso-gastric and gastrostomy tube feeding due to cosmetic and social reasons except in late stage after which they developed progressive lung disease and severe malnutrition stage where nutritional intervention did not improve their outcomes. Up to 25% of patients developed cholestasis at the time of diagnosis and improved with Ursodeoxycholic acid treatment. Analysis of (CFTR) showed that some new saudi mutations is directly related to severe pancreatic insufficiency, severe malnutrition status and progressive lung disease such as 1548delG exon 10, H139L exon 4, and 3120G→A intron 16) compared to the mutation (I1234V exon 19) of which patients present with pancreatic sufficiency and normal growth. Conclusion: Delayed nutritional rehabilitation in Saudi CF patients will lead to progressive malnutrition and death. There is a need for proper nutritional counseling and early nutritional rehabilitation in saudi Arabia. Key Word(s): 1. cystic fibrosis; 2. nutrition; 3. Pediatrics; 4. adults;

PR0563
Radiological and Ultrasound Imaging (CT, MRI, US)
The pathologic analysis of percutaneous ultrasound guided biopsies of liver lesions
Presenting Author: YALING XIONG
Additional Authors: HUI WANG, CHENGYAN WANG, CHUNHONG HAO
Corresponding Author: YALING XIONG
Affiliations: ultrasound department of jilin cancer hospital; Ultrasound department of jilin cancer hospital

Objective: Percutaneous ultrasound guided liver biopsy is an important diagnostic and therapeutic option in routine clinical practice. It is employed in the work-up of patients with suspected diffuse liver diseases, for treatment monitoring and staging of hepatitis, and for diagnostic clarification of hepatic lesions. Objective of the study was to analyse and estimate the diagnostic value of liver lesions by percutaneous ultrasound guided liver biopsy. Methods: In 301 patients with mean age of 58.29 ± 11.18 years (56.15% males; 43.85% females) ultrasound guided biopsies of liver lesions were performed on GE, LOGIQ E9. Each patient signed an informed consent for a biopsy. All patients had laboratory findings of coagulation factors (prothrombin time and platelets) normal. Puncture point and position depend on lesions location. The puncture entry point was marked on the skin after the sterile preparation, then local anaesthetics of 1% lidocaine was applied. We extracted 3–5 samples used for pathology. One patient was hematemesis because cirrhosis and others after puncture were without complication such as haemorrhage, subsequent infection, etc. Results: In 301 patients with liver lesions, 7 patients (2.33%) were no pathological findings because inadequate tissue sample or tissue necrosis and 15 patients (4.98%) data was lost. The results revealed that cancer percentage was 71.76% (216/301) in 301 patients, inflammation, normal, and hepatic hemangioma were 10.30% (31/301), 7.64% (23/301), 1.33% (4/301) respectively and FIVH of liver percentage was 1.66% (5/301). Conclusion: Percutaneous ultrasound guided liver biopsy is a useful method to diagnose liver lesions quickly and no suffering, and provides important value for clinical treatment. Key Word(s): 1. liver lesions; 2. percutaneous; 3. liver punctures;

The pathologic analysis of liver lesions

| pathologic result | number | percentage |
|-------------------|--------|------------|
| Cancer            | 216    | 71.76%     |
| Normal            | 23     | 7.64%      |
| Inflammation      | 31     | 10.30%     |
| Hepatic hemangioma| 4      | 1.33%      |
| Hepatic FIVH      | 5      | 1.66%      |
| Patients data lost| 15     | 4.98%      |
| Few or necrosis tissue | 7     | 2.33%      |
Methods:

Methods: The clinical data of 1 patient with liposarcoma of the spermatic cord was reviewed retrospectively in combination with related literature. Results: A 63-year-old man presented with chief complaint of a slight painless swelling in the right inguinal region over two months. The initial diagnosis made by his general practitioner was that of right-sided inguinal hernia. Ultrasoundography (USG) revealed this lobulated mass with nodular calcification, inhomogeneous hypoecho involving spermatic cord. The size of the mass is 4.7 cm × 3.0 cm × 3.1 cm. And a few blood vessels were seen in the the mass. The mass was irreducible and without any fluctuation, when the patient cough or increase abdominal pressure. Don’t exclude malignant, it is recommended that he should accept surgical treatment. One month later, the patient was admitted. Physical examination showed a slightly tender, lightly mobile right inguinal mass, measuring approximately 5.0 × 4.0 × 4.0 cm. Trans-illumination testing was negative. Ultrasound examination showed a bigger size mass, 6.2 cm × 4.3 cm × 4.0 cm, with more nodular calcification and more blood vessels than prior Ultrasound (Fig. 1). (highly suspicious of malignancy). This Ultrasound examination revealed confirmed diagnosis. CT scans also provided helpful information. CT scans demonstrated a mass composed adipose tissue, soft tissue and calcification invading spermatic cord (Fig. 2). Compared the two results of Ultrasound, nodular calcifications and blood vessels can be found easily increased with time, and hint malignant. CT scan may identify the mass arised from spermatic cord, and composed adipose tissue, around soft tissue and calcification invading. All pre-operative laboratory tests, including complete blood count, biochemistry and chest X-ray, were normal. The patient was taken up for surgery through the inguinal approach. The spermatic cord was dissected and delivered out and it showed a hard lipomatous mass (7.0 cm × 5.0 cm × 2.8 cm). The gross appearance was a solid mass of adipose tissue with a yellowish lipoma-like texture of the cut-surface. It was encapsulated, and attached to the spermatic cord. Histological examination confirmed a well-differentiated liposarcoma. Conclusion: Ultrasound examination and CT scan may different liposarcomas from hernia and provide some characteristic imaging features of liposarcomas. Identifying factors such as whether the fat is within the lesion, the origin of the lesions, and the presence of combined calcification is important for narrowing the differential diagnosis, since liposarcomas are malignant tumors derived embryologically from mesodermal tissues. This finding of calcifications in association with liposarcoma has been previously noted in prior reports, but the sample sizes of those published case series were too small to achieve statistical significance. In spite of this, the presence of calcifications should not be regarded. Liposarcomas are known for local recurrences and longterm follow-up. Ultrasound and CT are good surveillance option to follow-up. Key Words: 1. Liposarcomas; 2. calcification; 3. Ultrasound; 4. CT;
showed in figure A(a), B(b), C(c) and D(d) Conclusion: Ultrasonographically guided puncture could make a definitive diagnose for abdominal mass and provides important value for clinical treatment. 

Key Word(s): 1. ultrasound-guided; 2. abdominal mass; 3. biopsy;

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**PR0566**

**Radiological and Ultrasound Imaging (CT, MRI, US)**

**Value of 31p MRS in accessing the liver histology after pegylated interferon α-2a in chronic HBV**

Presenting Author: QIAN ZHANG  
Additional Authors: CHUNYU ZHANG, YONGGUI ZHANG, WENQIAN QI  
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**Objective:** PME/PDE ratio of 31p MRS was correlated better with the fibrosis score. This study was to investigate the utility of 31P MR spectroscopy as a noninvasive test to access the liver histology after pegylated interferon α-2a in chronic HBV patients. 

**Methods:** Patients initially received conventional Peg-IFNα-2a 180 μg (sc) once weekly for 48 weeks. Every patient was examined with 31p MRS (3.0T PHILIPS) when before antiviral therapy, 24 weeks and 48 weeks. Patients were divided into SVR group and no SVR group (sustained virologic response, SVR). Compare the 31p MRS PME/PDE of the same group patients at different therapy weeks, and the one of different group patients at the same therapy weeks.

**Results:** Whenever the SVR group and no SVR group, PME/PDE ratio of 31p MRS at 48 weeks was significant lower than the one at 24 weeks, and the two were lower than the one before antiviral therapy. When 24 weeks and 48 weeks, PME/PDE ratio of 31p MRS in SVR group was significant lower than no SVR group, but this was not been seen when before antiviral therapy. 

**Conclusion:** The 31p MRS PME/PDE ratio decreased in chronic HBV patients during pegylated interferon α-2a antiviral therapy. 31p MRS PME/PDE ratio can be used as biomarkers in a noninvasive test of liver histology response to treatment.

Key Word(s): 1. 31p MRS; 2. liver histology; 3. peg-IFN α-2a; 4. chronic HBV;

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**PR0567**

**Radiological and Ultrasound Imaging (CT, MRI, US)**

**The relationship of 31P MRS to liver histology in chronic HBV**

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**Objective:** PME/PDE ratio of 31p MRS was correlated better with the fibrosis score. This study was to investigate the correlations between 31P MRS and histological grading and staging in chronic HBV patients.

**Methods:** 20 chronic HBV patients and 10 healthy volunteers was includes this study. 20 chronic HBV patients was examined with liver biopsy and 31p MRS, 10 healthy volunteers was examined with 31p MRS. In 31P MRS, peak area of PME, PDE, PCR, Pi, γ-ATP, β-ATP, α-ATP were calculated. Biopsy specimens were scored for fibrosis and necroinflammation according to the Knodell histology index (HAI).

**Results:** There were differences in PME%, PDE% and PME/PDE between chronic HBV and control group. In chronic HBV, PME/PDE of G4 was significant higher than the one of G3, and the two was higher than G1 and G2. It was the same in the S stage. 

**Conclusion:** Raising of PME/PDE in chronic HBV showed the increase of histological grading and staging in chronic HBV. PME/PDE of 31P MRS was a significant mark of liver histology, and 31P MRS was a noninvasive test of liver fibrosis.

Key Word(s): 1. 31P MRS; 2. liver histology; 3. chronic HBV;
Polypositioning from different approaches for exact diagnostics of local examination in patients with tumors of the esophagus using scanning imaging (CT, MRI, US) in diagnosis hepatic steatosis

**Objective:** To assess value of the correction T2* of magnetic resonance imaging (MRI) in diagnosis hepatic steatosis.

**Methods:** Forty steatosis hepatitis patients who underwent MRI and liver biopsy and twenty healthy control were included in this study. The signal intensity was calculated in co-localised regions of interest using conventional spoiled gradient-echo T1 FLASH in-phase and opposed-phase. T2* relaxation time was recorded in a fat-saturated multi-echo gradient-echo sequence. The fat fraction was calculated with non-corrected and T2*-corrected SIs. Compare the T2* MRI steatosis rate to the liver biopsy.

**Results:**
- In all patients, the T2* fat fraction was significant different between the hepatic steatosis and control, and it was correlated with steatosis rate, P < 0.05.
- Then compare the T2* fat fraction of different group of liver biopsy patients. Fat fraction was the highest in the steatosis rate >75% patients, and it is similar with the steatosis rate 50–75% patients, and the two were significant higher than the steatosis rate <30% and 30%-50% patients. There was no significant different between 30%-50% group and <30% group, and also between <30% group and control.

**Conclusion:** T2* MRI fat fraction was a accurate and noninvasive test for the diagnosis of hepatic steatosis. It not very sensitive in slight steatosis.

**Key Word(s):** 1. T2*; 2. MRI; 3. hepatic steatosis;

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**Radiological and Ultrasound Imaging (CT, MRI, US)**

**Objective:** To evaluate possibilities of modern ultrasound examination in patients with tumors of the esophagus using scanning polypositioning from different approaches for exact diagnostics of local spread and effectiveness of the treatment.

**Methods:** To evaluate possibilities of modern ultrasound examination in patients with tumors of the esophagus using scanning polypositioning from different approaches for exact diagnostics of local spread and effectiveness of the treatment.

**Results:**
- Both fistulas were successfully sealed with one clip (Figure).
- Endoscopic closure of tracheoesophageal fistulas is an effective treatment for patients with tracheoesophageal fistula.

**Key Word(s):** 1. ultrasound; 2. esophageal; 3. cancer;
to the technique. None of the patients underwent additional endoscopic treatments. **Conclusion:** We report a new, effective endoscopic treatment for tracheoesophageal fistula using an over-the-scope clipping system. Although prospective comparative clinical studies are needed to work out the drawbacks of the new OTSC device, it might be considered as a valid alternative to stent placement in selected cases.

**Key Word(s):** 1. OTSC; 2. fistula; 3. esophagus; 4. endoscopic treatment;

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**PR0572**  
**Therapeutic Endoscopy/Interventional Radiology**  
**Palliative treatment for incurable malignant colorectal obstructions: a meta analysis**  
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**Objective:** To compare the benefits and risks between the palliative stent placement and palliative surgical decompression for incurable malignant colorectal obstructions.  
**Methods:** Relevant articles were searched from Medline, Web of Science, EMBase and the Cochrane Central Register of Controlled Trials (CENTRAL) (1990–2012 July). The main outcome measures were: hospital stay, intensive care unit usage, clinical success rate, 30-day mortality, morbidity, overall survival time and stoma formation.  
**Results:** 13 comparative articles, comprised of 837 patients (404 in stent group, 433 in surgery group), were analyzed. The clinical success rate in palliative surgery was more effective than stent group (99.8% vs. 93.1%, P = 0.0009). However, the time of hospital stay, beginning chemotherapy (9.55 vs. 18.84 days; 15.53 vs. 33.36 days, respectively) and the obvious reduction of stoma formation (12.7% vs. 54.0%, P < 0.00001) in stent group. Moreover, the 30-day mortality was significant lower in stent group than surgery (4.2% vs. 10.5%, P = 0.01). The rate of perforation, stent migration, stent occlusion in our series was 10.1%, 9.2%, 18.3%, respectively. The rate of wound infection and anastomotic leak in surgery setting was 5%, 4.7%, respectively. The total complications were similar between these two group (SEMS vs. surgery: 34.0% vs. 38.1%, P = 0.60), as surgery group occurred early complications more commonly than stent group (33.7% vs. 13.7%, P = 0.03), stent group seemed to have late complications more easily (32.3% vs. 12.7%, P < 0.0001). It should be noted that the overall survival time had no significant difference between groups (7.64 vs. 7.88 months).  
**Conclusion:** SEMS insertion seems to be less effective than surgery decompression for the palliation of incurable malignant LBO. But SEMS provide some advantages: shorter hospital stay and interval to chemotherapy, lower 30-day mortality and early morbidity without shorten overall survival time.

**Key Word(s):** 1. colorectal stent; 2. palliative surgery; 3. colorectal cancer; 4. treatment outcomes;

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**PR0573**  
**Therapeutic Endoscopy/Interventional Radiology**  
**Tansnasal intestinal obstruction tube in early post operation inflammatory small bowel obstruction**  
**Presenting Author:** FAN ZHANG  
**Additional Authors:** LI-BO WANG, YING-KAI WANG, HONG XU  
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**Objective:** Early post operation inflammatory small bowel obstruction (EPISBO) is regarded as special type of small obstruction, which compromises patient in 2 weeks after abdominal surgery. It is caused by edema and exudation in intestinal wall after abdominal operation trauma or peritoneal inflammation with both mechanical and motility obstruction. Treatment of EPISBO is usually in conservative way due to serious complications like fistula if immediate operation in the elderly patients, who with low movement would take more time to recover in traditional conservative way.
Effective decompression of alimentary tract is the key based on amelioration of general condition of patients. Transnasal intestinal obstruction tube (TIOT) is a 30 cm highly flexible accessible tube with double balloons at the front and multiple evacuating small hole at the lateral side of anterior part of it. With inflated fore balloon and decompression, the tube is able to advance in the intestinal lumen and release the obstruction. We design this prospective study to compare the TIOT with traditional nasal gastric decompression tube (NGDT) in the treatment of elderly patients. 

**Methods:** In this prospective clinical trial, 36 patients, average 73.2 years old, from the First Hospital of Jilin University diagnosed of EPISBO was enrolled in the study. They all had clinical symptoms small bowel obstruction after intake of food and diagnosed by abdominal computed tomography (CT) scan. The patients were treated with general method with fasting, correction of fluid and electrolytes and venous nutrition, antibiotics if necessary. TIOT was placed by experienced endoscopists with conscious sedation. Clinic symptoms, signs, 24 hours evacuated fluid, and abdominal girth. Whole blood count, electrons in vein and abdominal radiograph were recorded every 3 days after treatment. If no release was found in 7 days, the patients will be referred to surgery. 

**Results:** All the patients were successfully discharged in conservative method. 16 patients were treated in traditional NGDT, 20 patients with TIOT. Patients with TIOT had better result compared to NGDT in abdominal girth, volume of evacuation, time of defecation and farting with statistical significance (P < 0.05). The mean time of placement of TIOT by experienced endoscopists was 15.8 minutes in unconscious sedation way without any complication. 

**Conclusion:** TIOT has significant clinical outcome in treatment of EPISBO compared to traditional NGDT for elderly patients. TIOT is a safe and effective way in treatment of elderly patients’ EPISBO. Experienced endoscopist could provide a quick and safe way for placement of TIOT. 

**Key Word(s):** 1. obstruction tube; 2. bowel obstruction; 3. post surgery; 4. elderly patient;
PR0576
Therapeutic Endoscopy/Interventional Radiology
The analysis of retrievable stent implantation to achalasia of cardia for 22 cases
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Objective: Implant retrievable stent under endoscope to patients with achalasia of cardia, in order to explore the clinical value of stent implantation. Methods: From January 2007 to December 2009, implant retrievable stent under endoscope to 10 patients with achalasia of cardia, compare some indexes before and after 4 weeks of the stent implantation, such as symptom scores, maximum width (MWE) showed by esophageal barium meal, lower esophageal sphincter pressure (LESP), lower esophagus sphincter relaxation rate (LESRR) esophageal motility, and part of patients are followed. Results: 1. In 10 patients, symptom remission rate is 100% after 4 weeks, the symptom scores significantly lower than before stent implantation (P < 0.01); 2. In 10 patients, MWE is (3.47 ± 0.25) cm before stent implantation, (2.03 ± 0.30) cm 4 weeks after stent implantation (P < 0.05); 3. In 64 patients, LESP is (42.28 ± 10.35) mmHg before stent implantation, (16.26 ± 5.62) mmHg 4 weeks after stent implantation (P < 0.01); 4. LESRR is (15.08 ± 7.87)% before stent implantation, (87.48 ± 10.34)% 4 weeks after stent implantation (P < 0.01); None of the esophageal body recover propulsive peristaltic waves; 4. All patients emerge cardiac orifice mucosal tearing, no bleeding complications; 5. Follow up of 6, 12, 24, 48 and 72 months and above are 86.3% (67/75), 84.4% (50/57), 82.1% (33/38) 18/22, 8/8 patients have no recurrence of symptoms. Conclusion: Balloon dilatation under endoscope for achalasia of cardia has good effect for the recent and forward treatment; Clinical effect may be related to esophageal dynamics change after treatment.

Key Word(s): 1. achalasia of cardia; 2. retrievable stent; 3. endoscope;

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PR0577
Therapeutic Endoscopy/Interventional Radiology
Clinical outcomes of ESD for EGC with expanded criteria and undifferentiated cancer
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Objective: Endoscopic submucosal dissection (ESD) has the advantage over conventional endoscopic mucosa resection, permitting removal of early gastric cancer (EGC) en bloc, in particular case with large, ulcerated and minute submucosal invasive lesion. But, long-term outcomes of ESD in early gastric cancer with expanded criteria proposed by Gotoda et al, remain unknown. The aim this study was to evaluate the rate of tumor recurrence and disease free survival in early gastric cancer that categorized into expanded criteria after ESD and undifferentiated cancer. Methods: ESD was performed for patients with EGC that fulfilled the standard and expanded criteria and undifferentiated cancer. The expanded criteria defined as: 1) mucosal cancer without ulcer irrespective of tumor size 2) mucosal cancer wit ulcer ≤ 3 cm in diameter 3) Minimal submucosal invasive cancer (SM1) with ≤ 3 cm in diameter. The intramucosal or SM1 invasive undifferentiated cancer (signet ring cell carcinoma and poorly differentiated adenocarcinoma) ≤ 3 cm were also included for endoscopic treatment group. Cases with differentiated mucosal cancer without ulcer ≤ 2 cm were defined as standard criteria. The outcome measures were respectability and incidence of procedure-related complications such as bleeding and perforation. The difference in disease free survival rate and local recurrence rate between three groups was estimated. Results: Total 116 patients (71 patients in expanded criteria; 33 patients in standard criteria; 12 patients in undifferentiated cancer) underwent ESD and then received periodic endoscopic survey for 17–601 days (mean, 91 days). There was no significant difference in en bloc resection rates, curative resection rates and incidence of procedure-related complications between three groups. The local recurrence rates in three groups were 1.9% and 3.4%, 14.3%, respectively.(p = 0.232). The disease free survival rates in three groups were 97.4% and 91.7%, 80% respectively.(p = 0.648). There was no case with metastasis to lymph node or distant organs during the study period in three groups. Data were analysed the chi-square test. ★ One way ANOVA test ★★the Kaplan-Meier method and Log-rank. Conclusion: Standard criteria and expanded criteria of ESD and undifferentiated cancer have similar clinical outcomes in en bloc resection rates, local recurrence and disease free survival rates. It is suggested that EGC that categorized into expanded criteria and undifferentiated cancer will be indication of endoscopic treatment.

Key Word(s): 1. ESD; 2. EGC; 3. Expanded Criteria;
**PRO578**

Therapeutic Endoscopy/Interventional Radiology

**Endoscopic submucosal dissection for gastrointestinal mucosal lesions**

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**Objective:** To evaluate the effectiveness and safety of endoscopic submucosal dissection (ESD) in diagnosis and therapy of gastrointestinal mucosal and submucosal lesions.  

**Methods:** We collected 58 cases were treated by ESD in the First Affiliated Hospital of Guangxi Medical University between September 2009 and January 2012. The gastrointestinal mucosal protrusive lesions were detected by endoscopy. A total of 45 cases were proved to originate from the mucosa layer, muscularis mucosa layer, submucosal and muscularis propria layer. The patients without contraindications were treated with ESD. The specimens were sent to histological examinations. We made recommendations to all the patients on regular endoscopic follow-up. The retrospectively evaluated data included the en block resection rate, complication rate and recurrence rate in the group.  

**Results:** Fifty eight patients with 59 lesions underwent ESD successfully, 30 (50.8%) lesions were en bloc resection, and 55 (93.2%) lesions were removed completely. One ectopic pancreas on gastric antrum not completely removed as non-lifting sign positive after submucosal injection. Another two specimens form leiomyoma on corpus ventriculi and ectopic pancreas on gastric antrum removed incompletely. Histological diagnosis of upper gastrointestinal lesions: 11 inflammation, 7 ectopic pancreas, 7 leiomyomas, 3 polyps, 3 ulcer, a total of 5 cases of stromal tumors, fibrous histiocytoma, early carcinoma, solitary fibrous tumor, eosinophilic granuloma and hamartoma. Histological diagnosis of colorectal lesions: 16 adenoma, 5 carcinoma, 1 inflammatory polyp, 2 canceration then received surgery. A total of 22 cases before the operation had histological biopsy. Consistent diagnosis rate before and after the procedure was 59.1% (n = 13), another 9 cases (40.9%) had a clear diagnosis relying on larger biopsy after the procedure. There were 3 cases (5.2%) with post-ESD bleeding, 2 of them occurred within 24 h after ESD, 1 case shown symptoms On the sixth day after ESD. All of them were controled by endoscopic and medical treatment. One case (1.7%) with suspected gastric cancer had perforation during the procedure of ESD, after tampon clipping and then received laparotomy successfully. Median follow-up period was 5.7 (range, 1–23.5) month. Follow-up rate was 41.1% (23/56). There was a recurrence case of rectal adenoma in 14 follow-up months.  

**Conclusion:** ESD is effective and minimal invasive endoscopic techniques for removing gastrointestinal lesions. It allows en-bloc removal of large lesion and is associated with a higher diagnostic rate and a lower recurrence rate compared with endoscopic mucosal resection (EMR). ESD is technically more difficult and can result in more complication that may occur more lately. There was a huge incidence of post-ESD bleeding On gastric antrum.  

**Key Word(s):** ESD; EMR;

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**PRO579**

Therapeutic Endoscopy/Interventional Radiology

**Efficacy of endoscopic cyanoacrylate injection for treatment of gastric varices**

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**Objective:** Endoscopic injection of cyanoacrylate is recognized as the preferred method for gastric variceal bleeding. Despite the extensive worldwide use, there are still differences related to the safety and long term results. The aim of this study is to evaluate the efficacy and safety in different types of gastric varices and discuss the right time for the first gastroscopy examination postoperatively.  

**Methods:** A retrospective analysis was carried out in 52 cirrhotic patients who had large gastric varices and underwent endoscopic cyanoacrylate injection at our hospital from June 2010 to April 2012. To identify the efficacy, re-bleeding rate and complications and to discuss the right re-examination time after injection of cyanoacrylate for gastric varices, various factors were collected and analyzed, including gender, ages, Child-pugh classification, types of gastric varices, volume of cyanoacrylate and sessions of injection. All results were expressed as mean ± SD, or as a percentage. Quantitative variables were compared by One Way ANOVA, and qualitative variables were compared by the Fisher exact test. A P value less than 0.05 was considered significant. Statistical computation was performed using SPSS 17.0 software.  

**Results:** Fifty-two patients were included, 37 men and 15 women with an average age of 57.3 years (range 28 to 82 years). The etiology of cirrhosis was viral hepatitis in 28, alcoholic in 8, and biliary cirrhosis in 5, and cryptogenic cirrhosis in 11. Cirrhotic patients were classified as Child A in 24 cases, Child B in 22 and Child C in 6. According to the Sarin classification, 0 patients had gastric-oesophageal varices (GOV) type 1, 34 GOV2, 4 GOV1 and 2, and 14 isolated gastric varices (IGV) type 1. We used sandwich method with cyanoacrylate and lipiodol, utilizing an average of 2.01 ± 0.96 mL of cyanoacrylate per session (range 0.5 to 4 mL). There was no severe complications related to treatment except pyrexia in 2 patients and retrosternal pain in 3 patients. During 15.25 ± 11.44 months of follow-up, eradication of varices was documented on 9 patients (17.5%) in time of 8.89 ± 5.18 months and shrink of varices was documented on 23 patients (44.2%) in time of 3.87 ± 4.57 months postoperatively. The total effective rate after initial cyanoacrylate was 61.5%, and that in GOV2 (73.5%) was higher than GOV1 and 2 (50%) and IGV1 (35.7%). Twenty-four patients developed re-bleeding. 6 patients presented re-bleeding for exclusion of glue in 1.50 ± 0.84 months and 18 patients presented gastric variceal re-bleeding in 5.50 ± 4.86 months postoperatively. The re-bleeding rate in GOV2 was lower than that in GOV1 and 2 and IGV1. The cumulative re-bleeding rate was 5.6%, 22.2%, 38.9%, 50%, 72.2% in one, two, three, four and six months postoperatively.  

**Conclusion:** Injection of cyanoacrylate for gastric varices is effective and safe. The efficacy in GOV2 post cyanoacrylate is higher than GOV1 and 2 and IGV1 and the re-bleeding rate in GOV2 is lower. Endoscopy should be performed in 2 months post injection of cyanoacrylate in consideration of the risk of re-bleeding and psychological stress of patients.  

**Key Word(s):** gastric varices; cyanoacrylate; efficacy;
Objective: Gastritis cystica profunda (GCP) is a relatively rare disorder characterized by hyperplastic and cystic down growth of gastric glands into the submucosal layer. Early sporadic data have indicated that GCP was associated with previous gastric surgery. However, there are few data on clinical characteristics and treatment of patients with GCP in unoperated stomachs. Methods: The records of 15 patients with histologically confirmed GCP, who had no history of gastric surgery and all received endoscopic submucosal dissection (ESD) after endoscopic ultrasonography (EUS) at Nanjing Drum Tower Hospital from June 2010 to December 2012, were retrieved and retrospectively analyzed. Results: GCP was more common in men (M: F 12:3), with the median age of 58 years (range 24–72 years). The most common sites were the cardia (60%), followed by the gastric antrum (26.7%), the gastric body (6.7%), and the gastric fundus (6.4%). The average lesion diameter was 2.7 cm (range 0.6–5.8 cm). Gastroscopic examinations indicated that 10 were classified as the protruded type, and 5 were the flat type with the mucosal erosion. In terms of EUS appearance, Night (60%) exhibited cystic-solid masses accompanied by the thickened mucosa and muscularis mucosae, and the remaining 6 were anechoic (4, 26.7%) or hypoechoic (2, 13.3%) lesions with regular borders originating from submucosal layer. Histologically, all resected specimens were characterized by herniation of surface epithelium and cystic glands in the submucosa and muscularis mucosae. Among them, eight displayed severe chronic atrophic gastritis, and 6 coexisted with intraepithelial neoplasia. The male : female ratio was 11:8 and mean age was 59.47 (33–71) years. Mean tumor size was 130.89 (16–450) mm2 and mean number of forceps biopsy fragments was 3.37 (2–5). Mean sampling ratio was 39.07 (4–100) mm2/fragment and mean ESD specimen dimension was 9.03 cm2. Mean follow-up duration was 34.47 months and EGC recurrence was seen in 3 cases without lymph node or other organ metastasis (15.8%). The compatibility between previous ESD lesion and recurrence lesion, 2 cases were occurred in previous ESD sites. Analyzing of the recurrence EGC histology, undifferentiated type was 2 cases, and 1 case was differentiated type. Only one case was different histologic grade compared with previous histology. All recurrence cases were treated with variable treatment modality. Conclusion: In the case of pathologically negative findings after ESD, we presumed that tumors might have been small enough to have been removed by the previous forceps biopsy. However, the possibility of sampling error or of a different location should be considered.

Key Word(s): 1. early gastric cancer; 2. ESD; 3. no residual tumor;
significant differences between the two groups regarding the 1-year, 2-year cumulative rebleeding rates ($P = 0.802$, Log-rank test). The severe complications were scarce in both groups. Seven patients died in EVL group and 12 patients died in EVO group ($P = 0.834$). No significant differences between the 1-year, 2-year cumulative survival rates of the two groups were shown during the follow-up period (93.3%, 87.5% for EVL group vs. 89.2%, 86.5% for EVO group, $P = 0.815$, Log-rank test). Conclusions: EVL is effective and safe and appears not different to EVO in the treatment of GVH (type GOV1).

**Key Word(s):** 1. variceal hemorrhage; 2. endoscopic ligation; 3. cyanoacrylate glue;

**PR0583 Therapeutic Endoscopy/Interventional Radiology**

**Clinical application of emergency endoscope treatment for esophageal and gastric variceal bleeding**

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**Objective:** The research of the clinical effect of emergency endoscopy treatment for esophageal and gastric variceal bleeding.**Methods:** Collect the cases of emergency endoscopy treatment for the moderate or severe esophageal and gastric variceal bleeding which confirmed by endoscopy from January 2008 to December 2012. The cases include 379 cases of male, 89 cases of female, and the average age is 46.2 years. The pathogenesis include 325 cases of posthepatitic cirrhosis, 45 cases of schistosomiasis liver fibrosis, 66 cases of alcoholic cirrhosis, 20 cases of cirrhosis for other causes,12 cases of left-side-portal hypertensions. The Child-Pugh classification of liver function include 120 cases of A grade, 270 cases of B grade, 78 cases of C grade, there are 269 cases of esophageal varices, 80 cases of gastric varices, 119 cases of esophageal varices and gastric varices among them; Varicose degree: 108 cases of moderate, 360 cases of severe, 122 cases of surface erosion or mural thrombus of varicose vein, 346 cases of active bleeding. The treatment for esophageal variceal bleeding include 198 cases of endoscopic variceal ligation, 71 cases of endoscopic variceal sclerosis. The treatment for esophageal and gastric variceal bleeding include 119 cases of endoscopic variceal ligation with tissue glue injection treatment. The treatment for esophageal variceal bleeding include 80 cases of tissue glue injection treatment. Results: 468 patients stop bleeding after treatment, the rate of emergency hemostasis is 100%, 12 patients are rebleeding after 2 weeks of the treatment (2.6%), 28 patients are rebleeding after 8 weeks of the treatment (6.0%); The effective rate of endoscopic variceal ligation, endoscopic variceal sclerosis, tissue glue injection, endoscopic variceal ligation with tissue glue injection treatment respectively are 96%, 97%, 93.2%, 90%, 2 cases of bleeding after ligation, 4 cases of bleeding after sclerotherapy, 3 cases of bleeding after tissue glue injection, all the bleeding are stopped after treatment. Conclusions: Different treatment of esophageal gastric varices bleeding all have good curative effect, emergency endoscopic treatment for esophageal and gastric variceal bleeding is easily to operate, practical safety, fewer complications, and worthy of promotion.

**Key Word(s):** 1. endoscope; 2. EGVB;
Objective: To explore the safety and feasibility of endoscopic assisted laparoscopic resection of localized gastric gastrointestinal stromal tumors (GISTs). Methods: The clinical data for 55 patients who underwent resection of localized gastric GISTs by endoscopic assisted laparoscopic technique (27 cases) or pure laparoscopic technique (28 cases) in the First affiliated hospital of medical college of Xi’an Jiaotong University from 2010 to 2011 were analyzed retrospectively. The tumor size, tumor site, operative time, pathologic mitotic rate and immunohistochemical staining (CD117 and CD34), postoperative complication, recurrence and metastasis were compared between two groups. All patients underwent a routine follow-up for at least 1 year after the operation. Results: In gastric GISTs, the most common site of tumor is fundus of stomach. The operative time was 65 min ± 10 min and 82 min ± 14 min in the endoscopic assisted laparoscopy group and pure laparoscopy group respectively (P < 0.001). 2 cases were turned to laparotomy, and stenosis happened in 1 case with cardiac tumor in pure laparoscopy group. No tumor rupture in the operation was found in two groups. In the immunohistochemical staining after operation, similar positive rates were observed in the endoscopic assisted laparoscopy group (96.3% CD117-positive and 81.5% CD34-positive) and pure laparoscopy group (96.4% CD117-positive and 82.1% CD34-positive). No difference of risk assessments was observed in the endoscopic assisted laparoscopy group (very low-risk: 13 cases, low-risk: 9 cases, intermediate-risk: 3 cases, high-risk: 2 cases) and pure laparoscopy group (very low-risk: 12 cases, low-risk: 10 cases, intermediate-risk: 4 cases, high-risk: 2 cases). None of recurrence or metastasis was found in 1 year after the operation. Conclusion: Endoscopic assisted laparoscopic resection is a safe, timesaving and feasible technique for treating localized gastric GISTs. It has the advantages of minimal invasiveness, accurate positioning, and prevention of digestive tract stenosis. The long-term follow-up remains to be investigated.

Key Word(s): 1. GISTs; 2. endoscopy; 3. laparoscopy; 4. minimally invasive;

PR0586
Therapeutic Endoscopy/Interventional Radiology
Treatment of colorectal cancer by making use of endoscope and X-ray to insert colorectal stents
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Objective: To observe and discuss about the method and efficacy of treatment of colorectal cancer attached with intestinal obstruction by making use of endoscope and X-ray to insert colorectal stents. Methods: There are 8 patients who suffered from colorectal cancer attached with intestinal obstruction and failed in endoscope-laid stent insertion, and thus operations were made by using make of endoscope and X-ray to insert colorectal stents. Results: The stents were successfully inserted once for all of the 8 patients, with a success rate of 100%. Two patients were found after operation to have mucus and blood stool, but were relieved after venipuncture hemostasia; and neither of them was found to have intestinal perforation or other serious complications. Five patients treated with transitional stent insertion were transferred to the surgical department for intestine resection & anastomosis of Phase I, and no one was found after operation to have surgical site infection, anastomosis fistula or other complications. Conclusion: The treatment of colorectal cancer attached with intestinal obstruction by making use of endoscope and X-ray to insert colorectal stents is a safe and effective treatment measure.

Key Word(s): 1. Stent Insertion; 2. Colorectal Cancer;
allowed to liquid diets. Acid suppression, hemostatics, octreotide and antibiotic continue to use. He had no bleeding and was discharged on the fifth day after injection of cyanoacrylate. After 2 months, gastric varices shrank and residual scar was observed in the site of injection (Figure 1A). An endoscopy performed 7 months postoperatively showed mild gastric varix and (Figure 1C). And 19 months later, the gastric varix was disappeared (Figure 1D). In the follow-up period of 19 months, this patient had no further episodes of variceal bleeding. Case 2 A 60-year-old male visited the hospital for melena lasting for 1 week. He had a medical history of alcoholic cirrhosis, type 2 diabetes mellitus and cerebral infarction. Melena started one week before the visit, without significant incentive and other specific symptoms. Vital signs at admission were measured as blood pressure 126/68 mmHg, pulse rate 87/min, respiration rate 18/min, and body temperature 36.7°C. Not pale conjunctiva and anicteric sclera was found at physical examination. Hepatic face and liver palms were observed but no spider angioma. Cardiac and respiratory examinations were normal. There was splenomegaly with no tenderness in the left hypochondrium. Laboratory findings were as follows: hemoglobin 9.0 g/dL; hematocrit 32%; leukocyte 1 730 cells/mm3, neutrophil 62.1%; platelets 157 000/mL; total bilirubin 0.70 mg/dL; serum albumin 3.92 g/dL; gamma-glutamyl transpeptidase (GGT) 62 U/L; prothrombin time 15.6 s and alpha-fetal protein 30.35 ng/mL. Neither ascites nor encephalopathy was observed. Child-Pugh’s classification was graded as A. Abdominal contrast-enhanced computed tomography showed liver cirrhosis with gastric varices and splenomegaly. The following day of admission, endoscopy demonstrated the esophageal and fundus varices are present in continuity over the cardia with an overlying red spot, consistent with a recent bleeding (Figure 2A). Cyanoacrylate and lipiodol were injected into one of the gastric varices by the sandwich method. After operation, PPI, octreotide, antibiotic continue to use. He had no bleeding and was discharged on the fifth day after injection of cyanoacrylate. After 2 months, gastric varices shrank and residual scar was observed in the site of injection (Figure 1A). So endoscopic nylon endoloop was performed for 3 times at 4, 7, 10 months. A followed-up endoscopy performed 21 months after initial injection of cyanoacrylate revealed esophageal gastric varices were disappeared (Figure 2D). Conclusion: Gastric varices eradicated in the two patients and no obvious complications occurred. Key Word(s):1. gastric varices; 2. cyanoacrylate; 3. injection;
is a novel endoscopic operation for the treatment of achalasia. This study presents 6-month symptomatic and physiological outcomes after POEM for achalasia. **Methods:** Nineteen esophageal achalasia patients who underwent POEM in our institution between December 2011 and October 2012 were enrolled. Under general anesthesia, initial incision was made on the posterior wall of the esophagus after submucosal injection. Submucosal tunnel was created and extended below the lower esophageal sphincter (LES) onto the gastric cardia. Hemostatic clips were used to close the mucosal entry. Pre- and postoperative symptoms were quantified with Eckardt scores. Also, high resolution manometry was done before and after the procedure. **Results:** POEM was successfully performed and effectively released the dysphagia symptom in all patients. Both the patient symptom scores of achalasia, and the manometric pressure were significantly reduced after POEM. The median Eckardt score was 6.3 ± 1.9 and 0.8 ± 1.6 before and 6 months after POEM, respectively (P < 0.01). Manometric pressure studies (mean lower esophageal sphincter pressure) showed substantial improvement following POEM (preoperative 47.3 mmHg vs. postoperative 20.6 mmHg, P < 0.01). There was one case of intraoperative complications: full-thickness esophagotomy, which was repaired endoscopically with no sequelae. **Conclusion:** POEM appears to be a safe, effective and less invasive treatment against achalasia. However, further studies on technical method amendments and long-term follow-up examinations are still required.

**Key Word(s):** 1. Esophageal; 2. Achalasia; 3. HRM; 4. POEM;

**PR0590**

**Vascular Disease**

**A rare case of superior mesenteric artery syndrome**

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**Affiliations:**

**Objective:** Superior mesenteric artery (SMA) syndrome is an unusual cause of proximal intestinal obstruction. The syndrome is characterized by compression of the third portion of the duodenum due to narrowing of the space between the superior mesenteric artery and aorta and is primarily attributed to loss of the intervening mesenteric fat pad. We present the case of a 19-year-old female who presented with epigastric pain, weight loss, and vomiting. **Methods:** A 19-year-old thin girl (BMI 13.8) presented with an 18-month history of severe postprandial epigastric pain, nausea, anorexia, and weight loss. Upper gastrointestinal examination revealed a distended stomach and proximal duodenum to the level of the SMA. Upper endoscopy demonstrated a large, fluid-filled stomach. The duodenum was dilated down to the third part, at which point a tight, pulsating extrinsic stricture was noted. The endoscope could not be advanced past this narrowing. A CT scan of her abdomen confirmed a dilated stomach and proximal duodenum to the level of the SMA in the absence of any external masses (Figure). The patient was successfully treated with open duodenojunostomy. One month later, she remains asymptomatic with a total weight gain of 1.2 kg. **Results:** SMAS can be difficult to diagnose and diagnosis is often made on clinical suspicion and radiologic evidence of obstruction. Features of SMA syndrome on upper gastrointestinal series are a dilated proximal duodenum and vertical or oblique compression of the third portion of the duodenum. In our case, abdominal CT with intravenous contrast and upper gastrointestinal series were the only studies required for diagnosis. Although endoscopy is of minor positive diagnostic value, we feel it is mandatory in all patients to rule out intraluminal pathology. **Conclusion:** In conclusion, The SMA syndrome should be considered as a potential diagnosis in young adults who present with a history of persistent postprandial vomiting and weight loss.

**Key Word(s):** 1. Esophageal; 2. Achalasia; 3. HRM; 4. POEM;
Splenic artery pseudoaneurysm in pregnancy: a case report and review of literature

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Objective: Splenic artery pseudoaneurysms occur less commonly than true aneurysms and their true prevalence is still unknown. Pancreatitis is one of the conditions most commonly associated with the development of these pseudoaneurysms. Although rare, splenic artery pseudoaneurysms are more prone to rupture and may lead to bleeding into the abdominal cavity or into the gastrointestinal tract. Incidence in pregnant patients is even rarer. To date, no reports of splenic artery pseudoaneurysms in this population have been found in published literature. Methods: This is the case of a pregnant 19 year old at her 27th week of gestation who presented with epigastric to left upper quadrant pain. She was initially treated as a case of urinary tract infection due to findings of pyuria and bacteriuria on urinalysis. However, her abdominal pain persisted despite a week’s course of antibiotics. She subsequently developed preterm contractions prompting her admission. During the hospital stay, it was noted that her pain radiated to the back and was aggravated by food intake, often associated with postprandial vomiting. Acute pancreatitis was considered and serum lipase was ordered. The value of serum lipase (870 U/L) was just under the cutoff value which is part of the criteria for diagnosing acute pancreatitis, which is more than three times the upper limit of normal (normal 30–300 U/L). Nevertheless, since the patient’s symptoms improved by placing her on nothing per orem, she was treated as a case of mild acute pancreatitis and maintained on nothing per orem and intravenous hydration. The patient became pain-free and repeat serum lipase showed a decrease to normal values, hence she was started on soft diet after two days with progression to regular diet the day after. Abdominal CT scan was deferred due to the patient’s pregnant state and her apparent clinical improvement. However, abdominal pain recurred after about a week into the admission. An ultrasound was done to determine if gallstones were the cause of the pancreatitis and recurrent pain, but none were seen. Instead, the ultrasound showed splenomegaly and splenic varices, a normal-sized liver with smooth contour and homogeneous parenchymal echopattern, and a normal-sized portal vein. Left sided portal hypertension was considered which, in the setting of pancreatitis, was possibly due to splenic vein thrombosis. A Doppler study of the splenic vein was done showing sluggish but hepatopetal blood flow in the visualized areas of the splenic vein. Some segments of the vein were not adequately assessed due to overlying bowel gas. It was eventually decided that an endoscopic ultrasound was necessary to adequately assess the splenic vein, pancreas as well as the liver. On EUS, a thin-walled outpouching from the wall of the splenic artery measuring approximately 5 cm in diameter with flow on Doppler, which, in the setting of pancreatitis, was possibly due to splenic vein thrombosis. A Doppler study of the splenic vein was done showing sluggish but hepatopetal blood flow in the visualized areas of the splenic vein. Some segments of the vein were not adequately assessed due to overlying bowel gas. It was eventually decided that an endoscopic ultrasound was necessary to adequately assess the splenic vein, pancreas as well as the liver. On EUS, a thin-walled outpouching from the wall of the splenic artery measuring approximately 5 cm in diameter with flow on Doppler, which, in the setting of pancreatitis, was possibly due to splenic vein thrombosis.
mature. At 34 weeks of gestation, the baby was delivered by cesarean section. An abdominal CT scan was subsequently done confirming the presence of a splenic artery pseudoaneurysm measuring 9 cm in diameter with a thrombus noted within (Figure 2). The pseudoaneurysm was compressing the adjacent splenic vein which explained the splenomegaly, splenic varices and the presence of a splenorenal shunt. Scattered calcifications were also noted throughout the pancreatic parenchyma suggestive of chronic pancreatitis. The patient finally underwent aneurysmectomy and splenectomy and was subsequently discharged after an unremarkable postop course. The patient has followed up at the outpatient clinic and has remained pain-free since her discharge. 

**Results:** Splenic artery pseudoaneurysms are rare. In a study done in the Mayo Clinic, cases referred for evaluation of visceral artery aneurysms over an 18-year period were retrospectively reviewed. In this time frame, only ten cases were identified as splenic artery pseudoaneurysms. The most common symptoms associated with this condition were bleeding and abdominal or flank pain. While true visceral artery aneurysms are usually associated with arteriosclerosis, pseudoaneurysms, including those arising from the splenic artery, usually develop secondary to previous inflammation or trauma. The most common condition associated with the development of splenic artery pseudoaneurysms is pancreatitis. In a retrospective study done in a university hospital in Switzerland over a 20-year period, all six identified cases of pseudoaneurysms of the splenic artery were associated with chronic pancreatitis. In this case, a pregnant patient presented with symptoms consistent with pancreatitis. While the serum lipase level was not diagnostic, this does not entirely rule out the diagnosis. An abdominal CT scan is usually indicated to aid not only in the diagnosis of pancreatitis but also to grade its severity and detect possible complications. However, this was not immediately done for this patient due to her pregnant state. Instead, an abdominal ultrasound was done to rule out the presence of gallstones since this is the most common etiology of acute pancreatitis. When the ultrasound showed splenomegaly and splenic varices with a normal-looking liver and portal vein, left-sided portal hypertension was considered. Splenic vein thrombosis was initially suspected because this was a possible complication in 7 to 20% of cases of acute pancreatitis that could give rise to left-sided portal hypertension. A doppler study of the splenic vein was done but was inconclusive. An endoscopic ultrasound was subsequently done which revealed the presence of the splenic artery pseudoaneurysm. At this point, a dilemma in management arose. Pseudoaneurysms are more likely to rupture than true aneurysms. It was recommended in certain studies that all splenic artery pseudoaneurysms should undergo treatment, in contrast to true aneurysms which may be managed conservatively and monitored regularly. However, an invasive procedure at this point might precipitate labor in a patient already experiencing preterm contractions. The decision was made to allow the fetus to mature while closely monitoring the patient’s status, with plans to do immediate surgery should there be signs of impending or frank rupture. When the fetus reached 34 weeks age of gestation, delivery by cesarean section was done. An abdominal CT with IV contrast was finally performed, which found, immediate intervention is advocated whether by surgical or endovascular approaches, although recent studies have reported good efficacy and safety outcomes for endovascular therapies with lower mortality rates compared to surgery. No previous experience with splenic artery pseudoaneurysms occurring in pregnancy were reported. This case illustrates that there may be a role for expectant management in such cases to allow better chances for survival of the fetus while maintaining preparedness to perform an intervention should complications arise.

**Key Word(s):** 1. pseudoaneurysm; 2. splenic artery; 3. pregnancy;

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**PR0595**

**Viral Hepatitis (+Antiviral Therapy)**

**Prevalence & clinical implications of occult hbv infection in pts with chronic HCV infection**

**Presenting Author:** MUZAFFAR GILL

**Additional Authors:** UZMA GILL, HAFAISA AZIZ, FARAH SALMAN, NEELUM ANWAR

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**Objective:** Background: Occult hepatitis B infection (HepB surface antigen negative but HBV DNA positive) is considered more common in chronic hepatitis C infection patients than healthy subjects. Its clinical implications are not studied very well. We wanted to study the incidence and clinical significance of occult hepatitis B infection in chronic Hepatitis C patients. **Methods:** Methods: From July 2009 to July 2010 we consecutively enrolled 100 chronic hepatitis C genotype 3 patients for treatment. They were HCVPCR positive and were cosidered eligible for treatment They were HbsAg negative. We tested them for HBV-DNA to rule out occult HBV infection. We did liver biopsy on this cohort to grade/stage the necroinflammation and fibrosis. They were labelled as group one. These patients were given Pegvasy 180 ucg once weekly and 10 mg/kg Ribavirin daily for 6 months. In the same period we enrolled 100 healthy subjects.
who wanted to go for employment in gulf countries and had medical evaluation. They were negative for HCV antibody and HbsAg. We did HBV-PCR in this cohort to rule out occult HBV infection. This was labelled as group 2. **Results:*** Occult HBV infection defined in this study as a positive HBV-DNA was positive in 20% of patients in group one (chronic Hep C patients) and 6% in group 2 (healthy subjects) \( P = 0.001 \). In subjects with Occult Hep B infection and chronic Hepatitis C there was more severe necro inflammation and fibrosis as compared to without occult Hep B infection \( (p = 0.005) \). Efficacy of antiviral treatment 70% in occult Hep B positive Hep C patients Vs 85% in Occult B negative Hep C patients \( (p = 0.001) \). **Conclusion:** Occult Hep B infection is more common in Chronic Hep C patients than healthy subjects. Occult Hep B in chronic Hep C patients is associated with more advanced disease and less efficacy of antiviral treatment. It is a single center study, more studies are needed to confirm/refute our observation.

**Key Word(s):** 1. occult hepatitis B; 2. chronic hepatitis C;

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**PR0596**

**Viral Hepatitis (+Antiviral Therapy)**

**Correlation of serum HBsAg level with INR in HBeAg negative ACLF patients receiving lamivudine**

**Presenting Author:** JING LAI

**Additional Authors:** HAI-XIA SUN, KA ZHANG, WEI-QIANG GAN, YU-SHENG JIE

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**Objective:** HBV related acute-on-chronic liver failure (ACLF) is a clinical syndrome where acute hepatic insult manifesting as jaundice (serum total bilirubin (TBil) ≥ 5 mg/dL and coagulopathy (international normalized ratio (INR) ≥1.5), complicated within 4 weeks by ascites and/or encephalopathy in a patient with chronic HBV infection. But the correlation of hepatitis B surface antigen (HBsAg) level with INR in hepatitis B e antigen (HBeAg) negative ACLF has been scarcely investigated. The aim of this study was to retrospectively investigate the correlation of HBsAg levels with INR in patients receiving lamivudine. **Methods:** Fifty-seven HBeAg-negative ACLF patients were enrolled and treated with 100 mg of lamivudine daily. Serum levels of HBsAg, TBil were detected at baseline, before death (patients died within 12 weeks), week 12 (patients survived over 12 weeks). Significant differences were found in pre- and post-treatment HBsAg levels between the two groups (all \( P > 0.05 \)). No significant difference was found in pretreatment TBil \( (t = 0.625, P = 0.633) \). However, post-treatment TBil of patients with pretreatment HBsAg levels above 4000 COI was significantly lower than that of below to 4000 COI \( (t = -2.103, P = 0.045) \). **Conclusion:** In HBeAg-negative ACLF, the patients with higher HBsAg level may have better improvement of TBil during lamivudine treatment.

**Key Word(s):** 1. HBsAg level; 2. ACLF; 3. lamivudine; 4. TBil;

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**PR0597**

**Viral Hepatitis (+Antiviral Therapy)**

**Correlation of serum HBsAg level with TBil in HBeAg negative ACLF patients receiving lamivudine**

**Presenting Author:** JING LAI

**Additional Authors:** HAI-XIA SUN, KA ZHANG, YU-RONG GU, WEI-MIN KE

**Corresponding Author:** JING LAI

**Objectives:** HBV related acute-on-chronic liver failure (ACLF) is a clinical syndrome where acute hepatic insult manifesting as jaundice (serum total bilirubin (TBil) ≥ 5 mg/dL and coagulopathy (international normalized ratio (INR) ≥1.5), complicated within 4 weeks by ascites and/or encephalopathy in a patient with chronic HBV infection. But the correlation of hepatitis B surface antigen (HBsAg) level with TBil in hepatitis B e antigen (HBeAg) negative ACLF has been scarcely investigated. The aim of this study was to retrospectively investigate the correlation of HBsAg levels with TBil in patients receiving lamivudine. **Methods:** Fifty-seven HBeAg-negative ACLF patients were enrolled and treated with 100 mg of lamivudine daily. Serum levels of HBsAg, TBil were detected at baseline, before death (patients died within 12 weeks), week 12 (patients survived over 12 weeks). Dynamic of HBsAg and TBil were analyzed.

**Results:** Thirty-two patients were pretreatment HBsAg levels above 4000 COI, whose HBsAg and TBil were detected at baseline, before death (patients died within 12 weeks), week 12 (patients survived over 12 weeks). Dynamic of HBsAg and TBil were analyzed.

**Conclusion:** In HBeAg-negative ACLF, the patients with higher HBsAg level may have better improvement of TBil during lamivudine treatment.

**Key Word(s):** 1. HBsAg level; 2. ACLF; 3. lamivudine; 4. TBil;

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**PR0598**

**Viral Hepatitis (+Antiviral Therapy)**

**Evaluation of D-dimer and Protein S in cirrhotic patients with portal vein thrombosis**

**Presenting Author:** DONGLEI ZHANG

**Additional Authors:** JIANYU HAO

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**Objectives:** To investigate the diagnostic usefulness of D-dimer and Protein S in cirrhotic patients with non tumoral portal venous thrombosis (PVT). **Methods:** A retrospective study was carried out in 188 patients with liver cirrhosis (LC), including 51 cases of PVT. Plasma levels of D-dimer and PS were measured in all the patients who were classified as class A, B or C according to Child-Pugh score. Patients were divided into PVT or control groups according to computed tomography (CT) data. The receiver-operated characteristics curves (ROC) analysis was performed to determine the sensitivity, specificity, and positive and negative predictive values of D-dimer and PS in predicting the diagnosis of PVT in LC patients. **Results:** The PVT incidence rate was 26.7% in this study and cirrhosis etiology predominantly viral (especially HBV). The majority of the LC patients were Child-Pugh class B and there were no significant differences in gender, age, etiology, and Child-Pugh score between patients with and without PVT. In the whole population, D-dimer increased and PS
Viral Hepatitis (+Antiviral Therapy)  
Evaluation of DC and CIK Cell Activated by HBsAg Immune Effect in Vitro and Treatment of CHB  

**Objective:** To compare the differences in immune effect of dendritic cell (DC) and cytokine-induced killer cell (CIK), which activated by HBsAg, in chronic hepatitis B (CHB) and healthy people. To investigate the potential effect of CHB patients. **Methods:** DCs and CIK cells were cultured and amplified from CHB and healthy people peripheral blood. DCs was stimulated with pure HBsAg in cell culture medium prior to maturation. ELISA was used to detect the level of IL-12 in the supernatants of co-cultured DCs and CIK cells. The cell-killing activity of DC-induced CIK cell against HepG2.2.15 cells was measured. DC-CIK activated by HBsAg were reinfusion. Virus serological and Liver function were measured before and after 4, 8, 12 and 24 weeks of treatment. **Results:** The positive rate of HBsAg-activated DC and CIK cells surface marker in healthy people were significantly higher than in CHB. The cell-killing activity of HBsAg-activated DC/CIK was significantly higher than non-activated in CHB or healthy people (P < 0.05). The level of IL-12 in supernatants of co-cultured HBsAg activated DC-CIK cells form healthy people was much higher than that form CHB (P < 0.001). HBsAg activated DC-CIK cell therapy for CHB, can reduce the viral replication at 24 weeks, viral response rate was 63.6%. **Conclusion:** surface markers and immune effects of DCs / CIK cells HBsAg-activated and non-activated form healthy people were significantly higher than CHB; whether form healthy people or CHB, DCs and CIK cells immune effector were enhanced by HBsAg-pulsed. Transfusion of autologous DCs/CIK cells activated by HBsAg inhibits viral replication in patients with CHB.

**Key Word(s):** 1. dc; 2. CIK; 3. immunotherapy; 4. CHB;
difference between the ruban and rural for HBsAg (p = 0.062 > 0.05) and anti-HCV (p = 0.874 > 0.05) were not statistically significant. Among the markers only for anti-HBs; the difference between the ruban and rural was statistically significant (P = 0.042 < 0.05). Of them 4.15% were positive for HBsAg, 36.46% were positive for anti-HBs and 1.16% were positive for anti-HCV. **Conclusion:** In this study, Konya has been evaluated as two region; center and perifer. Our study showed us that distribution of the diseases vary from one region to another. We consider that difference in social diversity is one of the factors. These infections are major health problems. So the results of immunodiagnostic tests for HBsAg, anti-HBs and anti-HCV will be usefull for guiding control actions and for new preventive strategies. **Key Word(s):** 1. seroprevalence; 2. rural; 3. urban; 4. first step health;

**PR0602**

**Viral Hepatitis (+Antiviral Therapy)**

**XPD could reduce the expression of ERG gene via PPARγ pathway**

**Presenting Author:** YUE HE  
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**Affiliations:** Department of Gastroenterology, Second Affiliated Hospital

**Objective:** To investigate the effects of Xeroderma Pigmentosum Group D (XPD) Gene on the biological activity of hematoma G2 cell and examine whether XPD affected ERG gene via PPARγ pathway. **Methods:** The Human hepatoma cells (HepG2) were cultured and transfected with XPD gene by Lipofectamine 2000 followed by treatment with GW9662 (PPARγ inhibitor). There were six groups in the study including blank control group, Lipofectamine group (Lip group), pEGFP-N2 group (N2 group), pEGFP-N2-XPD group (XPD group), pEGFP-N2-XPD+ GW9662 group and GW9662 group. RT-PCR and Western blotting were employed to detect the expression of XPD, ERG, PPARγ and cdk7. The cell cycle and the apoptosis rate were examined with flow cytometry, and the cell viability was detected by MTT. **Results:** 1. The expressions of XPD mRNA and protein were increased remarkable after pEGFP-N2-XPD transected into HepG2 cell. 2. The Overexpression of XPD up-regulated the expression of PPARγ, but down-regulated the expressions of ERG and cdk7. 3. XPD may activate PPARγ, but whether phosphorylation PPARγ not, has not been confirmed. 4. XPD inhibited the viability of HepG2 and promoted the apoptosis. However, the inhibition of PPARγ by GW9662 blocked the above-mentioned effects of XPD. **Conclusion:** The wild-type XPD could decrease the proliferation of HepG2 cells and enhanced the apoptosis of HepG2 cells. XPD could inhibit the expression of ERG, Both the effects of XPD were via PPARγ pathway. **Key Word(s):** 1. XPD; 2. ERG; 3. PPARγ; 4. HepG2 cells;

**PR0603**

**Viral Hepatitis (+Antiviral Therapy)**

**Changes in etiologies and complications of liver cirrhosis in ten years**

**Presenting Author:** JIN TAO  
**Additional Authors:** XING WANG, BIN WU  
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**Affiliations:** The Third Affiliated Hospital of Sun Yat-Sen University

**Objective:** To figure out changing patterns of etiologies and complications and to evaluate the risk of occurrence of complications in liver cirrhosis of different causes. **Methods:** We make the cross-sectional study and collect the clinical data of hospitalized patients diagnosed with liver cirrhosis and admitted to our hospital in the year of 2001, 2005 and 2009–2010 respectively. Based on the data, we calculate and compare the risk of occurrence of complications in liver cirrhosis cases of different causes. **Results:** 1. Liver cirrhosis is still viral hepatitis. At the same time, the proportion of alcoholic liver cirrhosis increased from 6.0% to 6.6%. Autoimmune, cholestatic, metabolic liver cirrhosis and liver cirrhosis of mixed etiology all have ascending trends. Compared with non-viral hepatitis related cirrhotic population, patients with viral hepatitis are more likely to have portal vein thrombosis, portal vein tumor thrombosis and primary liver cancer, and the OR values are 1.73, 2.25 and 4.67. Risk of upper gastrointestinal bleeding in alcoholic cirrhosis is 3.57 times of that in autoimmune cirrhosis, 2.32 times in HBV cirrhosis and nearly 2 times in liver cirrhosis of unknown etiology. **Conclusion:** The most common cause of liver cirrhosis in China is still viral hepatitis. At the same time, the proportion of alcoholic, autoimmune, cholestatic and metabolic liver cirrhosis are increasing. Patients with viral hepatitis liver cirrhosis tend to have more complications of portal vein thrombosis, portal vein tumor thrombosis and primary liver cancer, and patients with alcoholic liver cirrhosis have more chances to suffer from gastrointestinal bleeding. **Key Word(s):** 1. liver cirrhosis; 2. etiology; 3. complication; 4. epidemiology;
**Objective:** To observe the proliferation inhibition and apoptosis induction effects of epigallocatechin gallate (EGCG) on human hepatocellular carcinoma cell HepG2 cell, and investigate the change of apoptosis-associated genes and the fatty acid synthase (FASN) expression, in order to discuss the possible anti-cancer mechanism of EGCG. **Methods:** HCC cell line HepG2 was cultured conventionally. The phenomenon of cell apoptosis was observed by staining with Hoechst33258 and detecting with flow cytometry. RT-PCR was applied to measure the gene expression of apoptosis-associated genes, Bcl-2 and Bax, and also to detect the FASN gene expression. **Results:** HCC cells treated with EGCG exhibited significant cell shrinkage, chromatin condensation, and the formation of apoptotic bodies with Hoechst33258 staining. The highest apoptosis rate was 28.6% in 160 μmol/L EGCG-treated groups measured by low cytometry. RT-PCR analysis indicated that Bcl-2 and FASN gene expression were significantly decreased with the increasing of EGCG concentration. **Conclusion:** EGCG can inhibit cell proliferation, and induce apoptosis of HCC cells, this effect may be related to inhibition of tumor cell apoptosis-associated genes Bcl-2 and the expression of endogenous FASN.

**Key Word(s):** 1. EGCG; 2. Apoptosis; 3. Fatty acid synthase; 4. HepG2;

**PR0606**

**Viral Hepatitis (+Antiviral Therapy)**

**Prednisolone versus UDCA in the treatment of acute cholestatic viral hepatitis A**

**Presenting Author:** JEFFEY GEORGE

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**Objective:** To assess the effect of short course prednisolone in comparison with UDCA (Ursodeoxycholic acid) in the management of patients with cholestatic viral hepatitis A. **Methods:** Patients diagnosed as acute hepatitis A with cholestasis having serum bilirubin level more than 10 mg/dl and with pruritus of grade 3 or 4 were enrolled and randomized into group A (UDCA 20 mg/kg/day for 4 weeks) and group B (prednisolone 0.75 mg/kg/day for 4 weeks). LFT and clinical parameters were recorded weekly for a maximum of 6 weeks. Primary endpoints were a fall in bilirubin to 3 mg/dl and/or reduction in pruritus by 2 grades. Mean time to clearance of jaundice and pruritus were compared. **Results:** 40 patients (34 males) were studied (group A = 20, group B = 20). Two were excluded, one due to protocol violation and another due to steroid induced mild pancreatitis which resolved within a few days. Mean time to clearance of jaundice was 49.7 days (21–85) in group A versus 36.3 days (14–82) in Group B (p = 0.02). Maximum treatment response was seen at day 17 in steroid arm (p < 0.01). Mean time to resolution of pruritus was 34.9 days (16–62) versus 20.7 (7–69) respectively (p < 0.01). Adverse effects noted were acne vulgaris in 2, facial puffiness in 1 and pedal edema in 1 patient in the steroid arm and 2 patients with skin infection in the UDCA arm. **Conclusion:** Short course prednisolone treatment hastens recovery from jaundice and improves pruritus in patients with acute hepatitis A with cholestasis as against treatment with UDCA. Short course treatment with prednisolone is inexpensive and without major side effects.

**Key Word(s):** 1. Prednisolone; 2. Cholestasis; 3. Viral hepatitis A; 4. Pruritus;

**PR0607**

**Viral Hepatitis (+Antiviral Therapy)**

**Role of XPD in hepatoma cells regulating ets-1 and cdk6**

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**Objective:** To observe the expression of Ets-1 and Cdk6 genes and their effects on the growth and proliferation of SMMC-7721 cells that was transfected with wild-type XPD gene. **Methods:** The pEGFP-N2-XPD was transfected into SMMC-7721 cells by Lipofectamine 2000TM. There were four groups in the study including SMMC-7721-pEGFP-N2-XPD (XPD group), SMMC-7721-pEGFP-N2 (N2 group), Lipofectamine (Lip group), and blank control group. The expression levels of XPD, Ets-1 and Cdk6 were detected by RT-PCR and Western blot. Flow cytometry (FCM) was used to analyze the cell cycle of SMMC-7721 cells. The cell proliferation was measured by MTT assay. **Results:** Compared with blank control group, N2 group and Lip group, XPD group showed significantly elevated expression levels of XPD mRNA and protein (P < 0.01). In contrast, the expression levels of Ets-1 and Cdk6 mRNA and protein were decreased obviously in XPD group (P < 0.01). FCM showed that XPD caused an arrest in the G1 stage of the hepatoma cells. The proliferation ability of SMMC-7721 cells was observably reduced after transfected by wild-type XPD gene (P < 0.01). **Conclusion:** XPD gene may inhibit the proliferation of the hepatoma cell by down-regulating the expressions of Ets-1 and Cdk6 genes.

**Key Word(s):** 1. XPD; 2. liver neoplasms; 3. Ets-1; 4. Cdk6;

**PR0608**

**Viral Hepatitis (+Antiviral Therapy)**

**Elevated intrahepatic B-lymphocytes in association with chronic active HBV infection**

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**Objective:** Humoral immunity constitutes major defense mechanism against viral infections, however the association of hepatic injury and B-cells population in chronic hepatitis B virus (HBV) carriers has not been studied well. **Methods:** Fifty seven hepatitis B surface antigen-positive and HBeAg negative patients were studied to determine the presence of CD20 B-cells marker on liver biopsy sections by using immunohistochemistry method. The patients’ clinical data at the time of liver biopsy were acquired from their medical records. **Results:** There was a significant association between log HBV DNA with ALT and HIA total score (r = 0.36, p = 0.006 and r = 0.3, p = 0.02). The CD20 was expressed in liver biopsies samples of all patients that was significantly associated with HIA total score (r = 0.32, p = 0.01) and stage of fibrosis (r = 0.31, p = 0.02).

**Conclusion:** B lymphocytes susceptible to hepatitis B virus proteins and
DNA might be implicated in the development of HBV-induced hepatic injury. The present data also support that the liver is potentially one of the secondary lymphoid organs.

**Key Word(s):** 1. Hepatitis B virus; 2. B-lymphocyte; 3. CD20;

**PRO0609**

**Viral Hepatitis (+Antiviral Therapy)**

HBV infection increases the risk of pancreatic cancer: a meta-analysis

**Presenting Author:** LUO GANG

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**Objective:** Hepatitis B virus (HBV) infection is reported to be associated with an increased risk of pancreatic cancer (PaC), but it remains controversial whether this is a causal relationship. In addition, it is unclear whether the status of HBV infection also affects PaC risk. Therefore, we conducted a meta-analysis to more closely examine the association between HBV infection and PaC. **Methods:** The studies included in the meta-analysis were identified and retrieved from PubMed and several other databases. The literature search was conducted up until August 2012. We adopted the Cochrane Collaboration’s RevMan 5.1 in a combined analysis of pooled relative risk (RR) with their corresponding 95% confidence intervals (CIs) using a random-effects and a fixed-effects model. **Results:** Nine studies including 6 case-control and 3 cohort studies met eligibility criteria. The meta-analysis showed that the PaC risk was positively correlated with HBV infection when comparing with ‘never exposed to HBV’ subgroup, the pooled RR was 1.39 (95% CI 1.22–1.59, p < 0.00001) in chronic HBV carriers. 1.41 (95% CI 1.06–1.87, p = 0.02) in past exposure to HBV, and 3.83 (95% CI 1.76–8.36, p = 0.0007) in active HBV infection. Using a stratified analysis, we also found that the risk of PaC was independent of smoking, alcohol drinking, and diabetes. **Conclusion:** Findings from this meta-analysis strongly support that HBV infection is associated with an increased risk of PaC.

**Key Word(s):** 1. HBV; 2. Pancreatic cancer; 3. Prevention; 4. Meta-analysis;

**PRO0610**

**Viral Hepatitis (+Antiviral Therapy)**

Complexity and diversity of HBV quasispecies after ETV

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**Objective:** To investigate the complexity and diversity of hepatitis B virus (HBV) quasispecies within the reverse transcriptase (RT) region during long-term treatment with entecavir and correlate with virological response in chronic hepatitis B (CHB) patients. **Methods:** Six CHB patients receiving entecavir monotherapy (0.5 mg/day) for 3 years were enrolled. To assess antiviral efficacy, serum HBV DNA and alanine aminotransferase levels were determined at baseline and weeks 12 to 156 post-treatment. The RT region of the HBV polymerase gene was amplified and sequenced. The HBV quasispecies complexity and diversity were calculated during the follow-up period to 144 weeks. **Results:** Four of the 6 nucleos/tide naïve patients who had lower than 2.6 log10 copies/ml during the treatment were defined as sustained virological responders, while the other 2 patients were non-responders. Despite comparable baseline levels, the complexity of HBV quasispecies was significantly (p < 0.05) reduced in responders compared to non-responders until 144 weeks after entecavir therapy. Moreover, the HBV quasispecies diversity within the RT region was significantly (p < 0.05) reduced in responders versus non-responders after the entecavir treatment. **Conclusion:** A reduction in the HBV quasispecies complexity and diversity predicts a better virological response to long-term entecavir mono-therapy.

**Key Word(s):** 1. Hepatitis B virus; 2. Entecavir; 3. Quasispecies; 4. Evolution;

**PRO0611**

**Viral Hepatitis (+Antiviral Therapy)**

Glucocorticoids can increase the survival rate of patients with severe viral hepatitis B

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**Objective:** Severe viral hepatitis B is a disease associated with significant morbidity and mortality. Clinical controlled trials show that the efficacy of treatment of severe viral hepatitis B with glucocorticoids remains debatable. Therefore, we carried out this meta-analysis to evaluate the safety, efficacy, and side effects of glucocorticoid therapy for severe viral hepatitis B. **Methods:** We searched PubMed, Medline, Embase, Cochrane Library, and Google Scholar for randomized-controlled trials published before April 2012 in which glucocorticoid therapy was compared with routine treatment for severe viral hepatitis B. The primary outcome was the survival rate of the two groups. **Results:** We selected eight controlled clinical trials, which included 597 patients. We recorded a benefit of glucocorticoid treatment on the survival rate of patients with severe viral hepatitis B (597 patients) [risk ratio (RR) = 1.188, 95% confidence interval (CI) 1.030–1.369, P = 0.018]. The benefit was most noticeable in patients at the stage of preliver failure (409 patients) [RR = 1.275, 95% CI 1.077–1.510, P = 0.005], whereas there was no efficacy for patients with liver failure (188 patients) [RR = 1.008, 95% CI 0.774–1.312, P = 0.955]. Glucocorticoid treatment was not associated with the development of secondary infection and bleeding. **Conclusion:** Treatment with glucocorticoids can significantly increase the survival rate of patients with severe hepatitis B. The benefit was most noticeable in patients at the stage of preliver failure. However, the incidence of secondary infection and bleeding did not change significantly. This finding suggests that prompt and timely glucocorticoid treatment is crucial.

**Key Word(s):** 1. Glucocorticoids; 2. HBV; 3. hepatitis; 4. survival rate;

**PRO0612**

**Viral Hepatitis (+Antiviral Therapy)**

Hepatic progenitor cells derive from cholangiocytes via EMT in HBV-related liver diseases

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**Objective:** The origin and heterogeneity of hepatic progenitor cells (HPCs) remain unclear. This study was to determine whether HPCs derive from cholangiocytes and/or hepatocytes via epithelial-mesenchymal transition (EMT) in hepatitis B virus (HBV)-related liver diseases. **Methods:** Surgical liver specimens from 75 cases of HBV-related diseases were subjected to electron microscopic (EM) examination. Immunohistochemical (IHC) investigations with double labeling were performed in 60 cases to detect the existence of HPCs (NCAM), epithelial cells (CK7, 60 cases to detect the existence of HPCs (NCAM), epithelial cells (CK7...
and E-cadherin), epithelial-mesenchymal transition (TGF-β, S100A4, MMP-2 and vimentin), myofibroblasts (αSMA), and T-cells (CD3). As control, 5 and 10 cases of normal liver from the patients with spleen-trauma operation were EM and IHC studied respectively. Results: With growing inflammation and hepatic fibrosis, NCAM positive HPCs in DRs increased showing increased expression of S100A4 and MMP-2, markers of EMT. Some intermediate hepatocytes at portal tract/parenchyma interface were positive for MMP-2 and revealed intercellular junctions with HPCs. A closely spatial association between HPCs and singly vimentin-positive cells in DRs was recognized, although the cells with co-expression of vimentin and NCAM were not identified. Cells with epithelial phenotype were negative for αSMA while some fibroblast-like cells expressing αSMA were present around DRs. CD4 and TGFβ positive Cells surrounding DRs increased parallel with the severity of inflammation and fibrosis. Neither HPCs nor cells with EMT in the control group were found. Conclusion: HPCs occur from cholangiocytes in DRs and contribute to hepatic fibrosis via EMT in hepatitis B virus-related liver diseases. To mesenchymal or to hepatocytic differentiation of HPCs depends on, at least in part, the adjustment of microenvironment TGFβ, presenting by infiltrating CD4+ T-cells responding to HBV infection.

Key Word(s): 1. HBV; 2. progenitor cell; 3. EMT; 4. liver;
Conclusion: Lamivudine treatment for patients with cirrhosis improves not only the liver function but also esophageal varices in a long term.

Key Word(s): 1. cirrhosis; 2. esophageal varices; 3. lamivudine;

**PR0616**

**Viral Hepatitis (+Antiviral Therapy)**

**Association between SNP of IL21 gene and chronic hepatitis B virus infection in a Chinese population**

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**Objective:** The aim of this study was to examine the association of single-nucleotide polymorphisms (SNPs) in interleukin (IL)-21 gene with susceptibility to chronic hepatitis B virus (HBV) infection in a Chinese population.

**Methods:** Chronic HBV infected patients and healthy controls were from the First Affiliated Hospital of Sun Yat-sen University from April 2009 to December 2012. Three SNPs (rs13143866, rs2221903 and rs907715) within the IL-21 gene intronic region were genotyped by SNaPshot SNP technique. **Results:** A total of 303 independent chronic HBV infected patients and 208 unrelated healthy controls were recruited for the case-control association study. There were no significant differences in the frequencies of all alleles and genotypes (rs13143866, rs2221903 and rs907715) between chronic HBV infection group and control group (P = 0.417, 0.126, 0.870 for alleles, P = 0.399, 0.285, 0.120 for genotypes). According to the existence of hepatocellular carcinoma (HCC), the chronic HBV infection group was divided into HCC group (n = 94) and non-HCC group (n = 209), unfortunately, no significant differences were found in the frequencies of all alleles and genotypes between HCC group and non-HCC group. In subgroup analysis, non-HCC group was classified into three clinical subsets, chronic hepatitis B (CHB) (n = 76), HBV carrier (n = 101), and HBV related cirrhosis (n = 32). When compared to the healthy controls, the effect of recessive model (AA versus GG+GA, OR = 0.154, 95 % CI = 0.030–0.776) was observed in HBV carrier group. Distributions of allele and genotype frequencies of the SNPs rs907715 and rs2221903 showed no significant differences among all groups. In haplotype analysis, although no haplotype was found to be associated with chronic HBV infection, our study found the ATA and GTA haplotypes (rs13143866, rs2221903 and rs907715) tended to be associated with HBV-related HCC (P = 0.070 and P = 0.104, respectively). **Conclusion:** Our study demonstrate that the allele G of rs13143866 may be a protective factor for chronic HBV infection. However, further studies are needed to determine the associations and functional consequences of these polymorphisms with chronic HBV infection susceptibility.

**Key Word(s):** 1. HBV; 2. IL-21 gene; 3. SNP; 4. Chinese population;

**PR0617**

**Viral Hepatitis (+Antiviral Therapy)**

**Characteristic of 158 cases’ liver pathology in HbeAg-positive and HbeAg-negative patients with CHB**

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**Objective:** To evaluate liver histopathology differences between HbeAg-positive and negative chronic hepatitis B (CHB) patients, and analyze its relationship with basic clinical data. **Methods:** Chronic hepatitis B (CHB) patients who were admitted to the Second Hospital of Hebei Medical University for a liver biopsy from January 2005 to December 2012 were enrolled. CHB patients were divided into HbeAg-positive and HbeAg-negative groups according to hepatitis B virus (HBV) serum markers HbsAg and HbeAg. At the same time, gender, age, alanine aminotransferase (ALT) and HBV DNA viral load were recorded, and statistically analyzed with SPSS 13.0. Measurement data were presented as mean ± standard deviation (mean ± SD). Comparing two sample number, t test (for normal distribution) or Mann-Whitney test (for skewed distribution) was used. ANOVA test was used to compare groups of measurement data. Correlation analysis was done using Pearson test. For enumeration data, Chi-square was conducted. **Results:** One hundred and fifty-eight CHB patients were divided into HbeAg-positive group (86 cases) and HbeAg-negative group (72 cases) based on serum markers HbeAg. Two groups of the age difference was statistically significant (t = −7.50, P < 0.01), no statistically significant differences in the sex ratio (χ² = 0.10, P < 0.05). There was significant difference in the constitute ratio of liver fibrosis staging between HbeAg positive group and HbeAg-negative group (χ² = 20.79, P < 0.01). The fibrosis staging integral in HbeAg-positive women were lower than men (1.48 ± 0.69 vs 2.09 ± 1.29, P < 0.05). For HbeAg-positive patients, both inflammation grading and fibrosis stage points in over 40 year old group were higher than the 30–40 age group and less-than-30-year-old age group with statistical significance (P < 0.05). For HbeAg-negative patients, fibrosis stage points in less-than-30-year-old age group were lower than the 30–40 age group and over 40 year old group with statistical significance (P < 0.05). In HbeAg positive/ negative group, age and inflammation grading or fibrosis staging integral were a positive correlation (P < 0.05). In HbeAg positive group, ALT levels and inflammation grading or fibrosis stage integral were also positively correlated (P < 0.05). In HbeAg negative group, ALT levels and inflammation grading integral were positively correlated (P < 0.01), ALT levels and fibrosis stage integral were non-related (P > 0.05). There was significant difference in the constitute ratio of the viral load between HbeAg positive group and HbeAg-negative group (χ² = 38.63, P < 0.01). HBV DNA positive rate in HbeAg positive group was significantly higher than HbeAg negative group. In HbeAg positive group, viral load and inflammation grading integral were negatively correlated (P < 0.05). In HbeAg negative group, viral load and inflammation grading integral were positively correlated (P < 0.05); Viral load and fibrosis staging integral were also positively correlated (P < 0.01). **Conclusion:** There is a certain correlation between gender, age, ALT and HBV DNA viral load and liver pathological changes in HbeAg positive and negative CHB patients. Liver damage HbeAg-negative CHB patients may sometimes be heavier than HbeAg positive CHB patients, and comprehensive consideration was required with a combination of clinical pathology and close follow-up.

**Key Word(s):** 1. CHB; 2. HBV; 3. HbeAg;
Objective: The prevalence rate of diabetes mellitus 2 in patients with HCV was higher than general people and patients with HBV. Our aims were to observe the expression of leptin and resistin in patients with chronic hepatitis C and diabetes mellitus 2; and to explore the relationship between liver function and serum leptin, resistin in patients with HCV and diabetes mellitus. Methods: 30 patients with HCV, 30 patients with diabetes mellitus 2, 30 patients with HCV and diabetes mellitus 2 were enrolled as experimental groups in this study. 30 general people were selected matching with experimental groups in gender, age, and BMI. The expression of leptin, resistin were detected by ELISA method, and compared them in different groups through the analysis of variance and chi-square test, and study the correlation between them and liver function (ALT, AST, TBIL, r-GT) by regression analysis. Results: The expressions of leptin and resistin in experimental groups were higher than those in control group, and the highest was the group with HCV and diabetes mellitus 2 (LEP 21.47 ± 0.04 vs 19.54 ± 0.07 vs 18.83 ± 1.07 vs 16.68 ± 1.10; RES 22.36 ± 0.03 vs 20.47 ± 1.56 vs 19.47 ± 0.08 vs 17.57 ± 0.47.), and there were significant differences (p<0.05). There were positive correlations between the levels of leptin, resistin and liver function in patients with HCV and diabetes mellitus 2. Conclusion: The expression of leptin and resistin in patients with HCV and diabetes mellitus were higher, and there were positive correlations between the levels of leptin, resistin and liver function. Therefore, they can be used to direct the management of patients with HCV.

Key Word(s): 1. HCV; 2. diabetes mellitus 2; 3. leptin; 4. resistin;
G1896A-G1899A were identified. Among the Y(I/V) DD strains, 165 (76%) strains had PC-BCP mutations. YV/IDD mutation with higher incidence of PC-BCP mutations were detected than without YMDD mutation (76% vs 24.0%, $\chi^2 = 45.283$, $P = 0.000$), YIDD mutation with higher incidence of PC-BCP mutations than YVDD mutation (85% vs 64.9%, $\chi^2 = 11.836$, $P = 0.001$) and lamivudine (LAM) resistance of YV/IDD mutation with higher incidence of PC-BCP mutations than pre-existent YI/VDD (89.3% vs 58.9%, $\chi^2 = 27.084$, $P = 0.000$). The three patterns of G1896A-G1899A mutation (P = 0.000, OR = 7.573), A1762T/G1764A- G1899A mutation (P = 0.000, OR = 6.539) and A1762T/G1764A- G1896A-G1899A mutations (P = 0.000, OR = 6.596) have a higher tendency to develop YIDD mutation according to binary logistic analysis.

**Conclusion:** There is a relationship between HBV YI/VDD mutation and PC-BCP mutations. Different PC-BCP mutation patterns have different effect on YI/VDD mutation.

**Key Words:** 1. Hepatitis B virus; 2. Y(I/V) DD mutation; 3. PC-BCP mutations;

### Table 1 Relative risks of YI/VDD according to Binary logistic analysis for difference Pre Core-basic core promote mutation pattern

| Factors                        | YIDD                  | P Value | YVDD                  | P Value |
|--------------------------------|-----------------------|---------|-----------------------|---------|
| ? G1896A-G1899A                | 7.573                 | 0.000   | 0                     | 0.996   |
|                                | (3.77–15.212)         |         | (0–0)                 |         |
| ? A1762T/G1764A                | 4.497                 | 0.000   | 2.494                 | 0.000   |
|                                | (2.729–7.410)         |         | (1.568–3.96)          |         |
| ? A1762T/G1764A+ G1896A        | 6.103                 | 0.000   | 3.575                 | 0.000   |
|                                | (3.474–10.725)        |         | (2.074–6.161)         |         |
| ? A1762T/G1764 A+ G1899A       | 6.539                 | 0.000   | 0                     | 0.997   |
|                                | (2.402–17.799)        |         | (0–0)                 |         |
| ? A1762T/G1764A+G1896AA+1899G | 6.596                 | 0.000   | 0                     | 0.997   |
|                                | (2.757–15.785)        |         | (0–0)                 |         |

**PR0621**

**Viral Hepatitis (+Antiviral Therapy)**

**Entecavir of 1.0 mg daily with acute on chronic hepatitis B liver failure**

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**Affiliations:** the first hospital of Jilin university

**Objective:** Nucleoside analogues of antiretroviral drugs currently widely listed are entecavir, lamivudine, telbivudine, adefovir dipivoxil, each of which has its advantages and disadvantages. And entecavir with strong antiviral effect, rapid onset, low resistance, especially for patients with initial treatment or severe conditions, is the best choice for antiviral treatment at present. To observe the decrease of viral load of hepatitis B, the improvement of liver function and blood coagulation function of the patient of hepatitis B associated with acute on chronic liver failure after antiviral treatment with application of entecavir 1.0 mg/day, we reviewed 1 patient of hepatitis B associated with acute on chronic liver failure after improvement of liver function and blood coagulation function of the patient discharged, and observed the improvement of laboratory indicators and the outcome of the patient’s conditions.

**Methods:** The patients of acute on chronic hepatitis B liver failure was administrated entecavir of 1.0 mg daily with acute on chronic hepatitis B liver failure was admittedentecavir of 0.5 mg/day for antiviral therapy, and was given other general internal medicine conservative treatments. We checked the liver function and blood coagulation function every 3–5 days. Considering the above indicators without improvement, we increased the dose of entecavir to 1.0 mg/day after a week admitted to our hospital. We reexamined liver function, coagulation function, and hepatitis B viral load when the patients discharged, and observed the improvement of laboratory indicators and the outcome of the patient’s conditions.

**Results:** The patient discharged after 37 days, when the serum total bilirubin decreased from 467.9 umol/L to 92.1 umol/L, the prothrombin activity from 23% to 69%, and the hepatitis B viral load from 1.29 × 104 IU/ ml to below the lower limit values. **Conclusion:** The patient discharged after 37 days, when the serum total bilirubin decreased from 467.9 umol/L to 92.1 umol/L, the prothrombin activity from 23% to 69%, and the hepatitis B viral load from 1.29 × 104 IU/ ml to below the lower limit values.

**Key Words:** 1. Entecavir; 2. Liver failure; 3. Hepatitis B; 4. Nucleoside analogue;

**PR0622**

**Viral Hepatitis (+Antiviral Therapy)**

**The clinical significance of the quantitative detection of hepatitis B surface antigen**

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**Objective:** In clinical work, we found that treatment-naïve patients with hepatitis B, who were in the process of the application of peginterferon alfa-2a, the level of quantitation of hepatitis B surface antigen has been changing. So we retrospectively reviewed 20 patients who were HBsAg-positive, HBeAg-positive and HBcAb-positive of our hospital from 2009 to 2010. And all of the patients had received the treatment of peginterferon alfa-2a. **Methods:** We divided 20 patients who had accepted the treatment of peginterferon alfa-2a into 2 groups. One group achieved sustained virological response and the other did not. There were no significant differences in the 2 groups in gender, age, genotye, serum HBV – DNA and surface antigen quantitative. **Results:** 6 patients achieved sustained virological response (24 weeks after the treatment of peginterferon alfa-2a, the quantitative of hepatitis B virus was still under 500 IU/mL), whose quantitative of hepatitis B virus was undetectable at the 24th week of application of peginterferon alfa-2a (the quantitative of hepatitis B virus was under 500 IU/mL), and serological conversion occured at 48th week. The 6 patients’quantitative of hepatitis B surface antigen continued to decline during treatment of peginterferon alfa-2a, quantitative of hepatitis B surface antigen less than 1500 IU/mL at 24th week, which declined 1 log10 IU/mL compared with baseline.14 patients had not got sustained virological response, whose quantitation of hepatitis B surface antigen did not declined obviously, and the quantitation of hepatitis B virus was...
still higher than normal during treatment. **Conclusion:** The degree of decline of early serum hepatitis B surface antigen quantitation can predict sustained virological response. The study is helpful for clinical workers to adjust the drug timely, and to improve the level of treatment.

**Key Word(s):** 1. hepatitis B; 2. quantitation; 3. detection; 4. surface antigen;

**PR0623**

**Viral Hepatitis (+Antiviral Therapy)**

**Prediction of true inactive carrier defined by quantitative HBsAg among inactive HBV carriers**

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**Additional Authors:** KI JUN JANG, SUNG IN YU, SANG HOON PARK, JI YOUNG PARK, DONG HYUN SINN, TAE JOO JEON, TAE HOON OH, WON CHANG SHIN, WON-CHOONG CHOI

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**Objective:** Combined use of hepatitis B surface antigen quantitation (qHBsAg) and hepatitis B virus (HBV) DNA levels has been shown to identify true inactive carriers with high accuracy. We analyzed the prevalence and predictors of true inactive carrier among inactive HBsAg carriers defined by hepatitis B e antigen, serum aminotransferase levels and HBV DNA levels. **Methods:** A total of 96 chronic hepatitis B patients [age $= 51.6 \pm 12.6$, male = 65 (67.7%)] who won the American Association for the Study of Liver Disease (AASLD) diagnostic criteria for inactive HBV carrier were consecutively enrolled. "True inactive carrier" was defined for patients who had low serum qHBsAg levels ($< 1,000$ IU/ml). **Results:** The prevalence of "true inactive carrier" was 61.4% (59/96 patients). Age ($r = -0.320$, $p < 0.001$) and serum HBV DNA levels ($r = 0.540$, $p < 0.001$) were independent factors associated with serum qHBsAg levels in inactive HBV carriers. The prevalence of "true inactive carrier" was 31.6%, 40.0%, 80.0% and 77.3% for age $< 40$, 40–49, 50–59 and $\geq 60$ years ($p < 0.001$), respectively, and was 90.9%, 86.4%, 50.0% and 38.5% for undetectable serum HBV DNA, 12–99 IU/ml, 100–999 IU/ml and 1000–1999 IU/ml ($p = 0.001$), respectively. Based on two independent factors, most of older inactive HBV carriers (age $\geq 50$ years) with very low viremia ($< 100$ IU/ml) were "true inactive carriers" (95.5%, 21/22 patients), but it was only 21.4% (6/28) for younger inactive HBV carriers (aged $< 50$ years) with serum HBV DNA levels $\geq 100$ IU/ml. **Conclusion:** Large proportion of inactive HBV carriers was not "true inactive carriers" when defined additionally with qHBsAg levels. Inactive HBV carriers warrant close monitoring, especially for young patients with detectable serum HBV DNA levels.

**Key Word(s):** 1. Chronic hepatitis B; 2. quantitative HBsAg; 3. inactive carriers;

**PR0624**

**Viral Hepatitis (+Antiviral Therapy)**

**Predictive value of serum LHBs for determining antiviral treatment efficacy in chronic hepatitis B**

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**Objective:** The response rate to antiviral therapy varies greatly among individuals, and its prediction is still very challenging. The aim of this study was to evaluate the usefulness of serum hepatitis B virus large surface protein (LHBs) levels compared with HBsAg in prediction of the antiviral treatment effect. **Methods:** Quantification of LHBs, HBsAg and HBV DNA was carried out at baseline and during antiviral therapy (weeks 4, 12, 24, 36 and 48) in HBsAg-positive patients treated with peginterferon alfa-2a (n = 21) or entecavir (n = 41). **Results:** The serum LHBs concentration was correlated positively with HBV DNA and HBsAg ($r = 0.635$ and 0.588, respectively). LHBs and HBV DNA levels decreased significantly in a biphasic manner and HBsAg level tended to decrease slowly in both treatment groups. In peginterferon alfa-2a group, the cutoff of 88.46 ng/ml in serum LHBs at week 4 gave the best AUC (= 0.96) with positive and negative predictive values of 88.9% and 100%, in association with virological response (VR). Serum LHBs level at week 4 also showed an association with VR in entecavir group (AUC 0.78). The predictive model incorporating LHBs, HBsAg and HBV DNA could discriminate VR at baseline (AUC 0.79) and showed an association with serological response (SR) at week 12 (AUC 0.80) in peginterferon alfa-2a group. **Conclusion:** On-treatment quantification of serum LHBs may be a more useful parameter for predicting VR in patients on peginterferon alfa-2a than those on entecavir. Combining LHBs, HBsAg and HBV DNA can predict VR and SR more effectively and earlier.

**Key Word(s):** 1. LHBs; 2. HBsAg; 3. Hepatitis B; 4. Predictor;
**PR0625**

**Viral Hepatitis (+Antiviral Therapy)**

HCV genotype 2a shows a better virological response to antiviral therapy than HCV genotype 1b

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**Objective:** The standard treatment for patients with chronic hepatitis C (CHC), pegylated interferon-α (PEG-IFN) plus ribavirin (RBV) does not provide a sustained virological response (SVR) in all patients. The impact of viral subtype on the rate of sustained virological response (SVR) to antiviral therapy in patients chronically infected with hepatitis C genotype 1b and genotype 2a has not been extensively investigated. The aim of this study is to determine whether the HCV genotype 1b and 2a respond differently to treatment with PEGylated interferon (PEG-IFN) plus ribavirin in China.

**Methods:** For 48 weeks, 180 “naive” genotype 1b and genotype 2a patients were treated weekly with PEG-IFN α-2a or PEG-INF α-2b combined with daily ribavirin (1000–1200 mg/day). The numbers of patients in whom HCV-RNA was undetectable were compared after 4 (rapid virological response, RVR), 12 (early virological response, EVR), and 48 (end treatment virological response, ETR) weeks of treatment as well as 24 weeks after the last treatment (sustained virological response, SVR).

**Results:** The rate of SVR was higher in genotype 2a patients than genotype 1b patients (86.8% vs. 61.1%; p < 0.01). Multivariate binary logistic regression analysis showed that infection with genotype 2a (odds ratio (OR): 7.08; 95% confidence interval (CI): 2.71 to 18.54), HCV-RNA < 5.70 log10 IU/ml (OR: 3.28; 95%CI: 1.47 to 7.34), fibrosis score = S3 (OR: 3.4; 95%CI: 1.45 to 7.96), HLA-A2 positive (OR: 2.63; 95%CI: 1.19 to 5.83), rapid virological response (OR: 5.35; 95%CI: 2.24 to 12.82) and were all independent predictors of SVR. Dual antiviral therapy is more effective against HCV subtype 2a than against subtype 1b and this difference is independent of other factors that may favour viral clearance in China.

**Key Words:** 1. Hepatitis C virus; 2. genotype 1b; 3. Genotype 2a; 4. Pegylated interferon;

**Table 3** Factors associated with the likelihood of SVR Multiple binary logistic regression analysis

| Variable          | β    | S.E. | P value | O.R  | O.R.95%C.I. |
|-------------------|------|------|---------|------|-------------|
| Genotype 2a       | 1.94 | 0.99 | <0.01   | 7.08 | 2.71–18.54  |
| HCV-RNA < 5.70 log10 | 1.19 | 0.41 | <0.01   | 3.28 | 1.47–7.34   |
| Staging = S3      | 1.22 | 0.43 | <0.01   | 3.40 | 1.45–7.96   |
| HLA-A2            | 0.97 | 0.41 | 0.02    | 2.63 | 1.19–5.83   |
| RVR               | 1.68 | 0.45 | <0.01   | 5.35 | 2.24–12.82  |

Legend O.R: odds ratio, S.E: standard error, CI: confidence interval, HLA-A2: human leucocyte antigen A2, RVR: rapid virological response.

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**PR0626**

**Viral Hepatitis (+Antiviral Therapy)**

Adefovir add-on therapy could significantly improve the efficacy of chronic hepatitis B patient

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**Objective:** Currently, there is no consensus on the recommendation of chronic hepatitis B (CHB) patient with a poor early viral response (EVR) to peginterferon alfa (pegIFNα). The aim of this study was to assess the curative efficacy of adefovir (ADV) add-on therapy at 6 months after starting pegIFNα-2a. Methods: HBeAg-positive CHB patients with partial virological response (PVR) at month 6 after starting pegIFNα-2a were enrolled, and received with either pegIFNα-2a continuing monotherapy (group A) or add-on therapy with adefovir (group B) according to their own choice. Results: A total of 85 patients were included in this study, with 51 patients in group A and 34 patients in group B; and the baseline characteristics were comparable between two groups. At month 6, the virological response (VR) rates were 31.4% and 73.5%, the biochemical response (BR) rates were 39.2% and 85.3% in group A and B respectively; and the difference in either VR or BR was statistic significantly (both P < 0.001). As compared to patients in group A, significant more patients in group B obtained HBeAg loss (19.6% vs 55.9%, p = 0.001) and seroconversion (13.7% vs 41.2%, p = 0.004). All patients in both two groups were well tolerated and no serious side effects were reported within 6 months treatment. Conclusion: Adefovir add-on therapy could significantly improve the curative efficacy of CHB patient with PVR to pegIFNα-2a monotherapy, but further large well-designed randomized controlled trials are needed to confirm our findings.

**Key Words:** 1. Chronic hepatitis B; 2. HBeAg-positive; 3. Peginterferon alfa; 4. Adefovir;

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**PR0627**

**Viral Hepatitis (+Antiviral Therapy)**

The study of CA-199 level in serum used to assess the seriousness of liver damage

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**Objective:** To explore the relationship between the CA-199 levels in serum of chronic hepatitis B and cirrhosis patients and the seriousness of liver damage.

**Methods:** The levels of CA-199 in serum of chronic mild hepatitis B, chronic moderate hepatitis B, chronic severe hepatitis B, cirrhosis patients and healthy people were detected with Chemiluminescent immunoassay respectively. Results: The CA-199 levels in serum of chronic mild hepatitis B, chronic moderate hepatitis B, chronic severe hepatitis B, cirrhosis patients were significantly higher than that of healthy control group. The CA-199 levels in serum of chronic moderate hepatitis B were obviously higher than that of chronic mild hepatitis B. The CA-199 levels in serum of chronic severe hepatitis B and cirrhosis patients were significantly higher than that of chronic moderate hepatitis B. There were little differences between the CA-199 levels in the serum of chronic severe hepatitis B and cirrhosis patients. Conclusion: The CA-199 level was raised with the increased liver damage, and it can be used as an indicator of severity of liver damage.

**Key Words:** 1. CA-199; 2. chronic hepatitis B; 3. cirrhosis; 4. liver damage;
PR0628
Viral Hepatitis (+Antiviral Therapy)
Study on relationship in changes of OPN, IL-4, IL-12 and IFN-γ levels with patients infected by HBV
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Objective: To observe clinical significance between changes of OPN, IL-4, IL-12 and IFN-γ levels and relationship with hepatic function in patients with chronic hepatic disease infected by HBV. Methods: The levels of OPN, IL-4, IL-12 and IFN-γ in peripheral blood of 121 patients with chronic hepatitis B, 42 patients with hepatitis B-related cirrhosis, 102 HBV carriers and 30 healthy people as the control group were respectively detected with ELISA. Results: The levels of OPN, IL-12 and IFN-γ in chronic hepatitis B and hepatitis B-related cirrhosis groups were significantly increased compared with that of health control group, while IL-4 was decreased; OPN, IL-12 and IFN-γ in hepatitis B-related cirrhosis group were markedly higher than those of chronic hepatitis B group, while IL-4 was lower; OPN, IL-12 and IFN-γ in mild type of hepatitis B were significantly higher than those of heavy group of chronic hepatitis B and there was positive relationship between the levels of OPN, IL-12 or IFN-γ and the chronic liver disease degree, while IL-4 was the opposite. Conclusion: OPN, IL-4, IL-12 and IFN-γ levels in peripheral blood of hepatitis B is closely related to the diseases degree, and there is a clinic significance of the levels of OPN, IL-4, IL-12 and IFN-γ, which may be potent plasma markers.

Key Word(s): 1. Hepatitis B, chronic; 2. cirrhosis; 3. OPN; 4. Cytokine;

PR0629
Viral Hepatitis (+Antiviral Therapy)
Efficacy of 3 years of continuous entecavir treatment in nucleos(t)ide-naïve chronic hepatitis B patients
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Objective: To explore the efficacy of 3 years of continuous entecavir treatment in nucleos(t)ide-naïve chronic hepatitis B patients. Methods: A total of 82 chronic hepatitis B patients received the antiviral therapy of entecavir 0.5 mg/d. The ALT level and HBV-DNA loads before and after the treatment were observed. And the rates of ALT normalization, HBV DNA clearances, HBeAg loss and HBeAg seroconversion during the end of the therapy of year 1, 2 and 3 were also studied. Results: For the 82 patients, during the end of the therapy of year 1, 2 and 3, the rates of ALT normalization were 79.3% (65/82), 84.2% (69/82) and 92.7% (76/82); the HBV-DNA loads were (3.108 ± 1.394), (2.637 ± 0.571) and (2.670 ± 0.982) log10 copies/ml; the rates of HBV DNA clearances were 65.9% (54/82), 81.7% (67/82) and 89.0% (73/82) respectively. And for the 60 cases of HBeAg positive patients, during the end of the therapy of year 1, 2 and 3, the rates of HBeAg loss were 18.3% (11/60), 43.3% (26/60) and 41.7% (25/60); the rates of HBeAg seroconversion were 16.7% (10/60), 28.3% (17/60) and 31.7% (19/60) respectively. Conclusion: Continuous entecavir treatment in nucleos(t)ide-naïve chronic hepatitis B patients could inhibit HBV replication effectively, enhance ALT normalization and HBeAg seroconversion. And prolongation of treatment may increase the rates of HBV DNA clearances, HBeAg loss and HBeAg seroconversion.

Key Word(s): 1. Hepatitis B; 2. Chronic; 3. Entecavir; 4. Efficacy;