Best of APDW - Plenary Abstracts Presentations

# O-0119 Predictive factors of relapse after 3 years of oral steroid maintenance therapy for autoimmune pancreatitis

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Background: Following remission induction therapy with prednisolone (PSL) for type 1 autoimmune pancreatitis (AIP), maintenance therapy (MT) for 3 years is recommended by the Japanese Consensus Guidelines. However, relapse can still occur after 3 years. This study examined the predictive factors of relapse after MT for 3 years.

Methods: Thirty-eight cases (mean age: 62 years; male: 82%) of type 1 AIP were enrolled. Mean follow-up period was 10.9 years (range: 5.2–23.4 years). The subjects were all continued MT after 3 years and were divided into two groups: relapse after MT for 3 years and non-relapse after MT for 3 years.

Results: No significant differences in follow-up period or PSL dose were observed after MT for 3 years between the groups. The relapse group had significantly less frequent jaundice (P < 0.005), higher serum IgG (P = 0.005) and IgG2 (P = 0.028), lower serum C3 (P = 0.022) and more frequent lachrymal/salivary gland (P = 0.003), lung (P = 0.042), and kidney (P = 0.020) lesions as well as retroperitoneal fibrosis (P = 0.011) than the non-relapse group at diagnosis. Patients with ≥2 other organ involvements at diagnosis were also more likely to relapse (P = 0.002) after MT for 3 years. At the time point of 3 years MT, the relapse group had significantly higher serum IgG1 (P = 0.018) and IgG4 (P = 0.020) and thicker pancreatic parenchyma of the head (P = 0.045) and tail (P = 0.024) than did the non-relapse group. According to multivariate analysis, <60 years of age (OR 15.19, 95%CI 1.0–227.5) and kidney lesion (OR 33.81, 95%CI 1.6–698.1) at diagnosis and serum IgG ≥400 mg/dL at 3 years of MT (OR 35.35, 95%CI 2.5–491.9) were all predictive factors of relapse following MT for 3 years.

Conclusion: Age and kidney lesion involvement at AIP diagnosis along with elevated serum IgG level at 3 years of MT were predictive factors of relapse subsequent to MT for 3 years.

# O-0124 Mesenchymal stem cells ameliorate DSS-induced chronic colitis in mice by inducing phenotypic changes of dendritic cells

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Background/Aim: Mesenchymal stem cells (MSCs), which are an emerging cell therapeutic for inflammatory bowel disease (IBD), have demonstrated immunomodulatory effects through interactions with T cells and dendritic cells (DCs). In this study, we investigated whether MSCs could induce the differentiation of mature DCs (mDCs) into regulatory DCs. We also investigated whether MSC-DCs (imDCs co-cultured with MSCs) could alleviate inflammation through T cell modulation in a dextran sulfate sodium (DSS)-induced chronic colitis mouse model.

Results: Splenocytes co-cultured with MSC-DCs resulted in the elevated expression of regulatory T (Treg) cell markers in vitro. MSC-DCs expressed CD11c + CD80/low CD86/low cell surface markers. These MSC-DCs also secreted high levels of anti-inflammatory cytokines, whereas production of pro-inflammatory cytokines was diminished in vitro. The levels of FoxP3, CD4 and CD25 were increased in splenocytes co-cultured with MSC-DCs. Furthermore, intraperitoneal injection of MSC-DCs significantly increased anti-inflammatory cytokines and enhanced differentiation of FoxP3+ Treg cells in vivo, resulting in considerable amelioration of chronic colitis and improvement of survival rates in DSS-treated mice.

Conclusion: These results showed that MSC-DCs ameliorated chronic colitis by promoting both Treg cell differentiation and the secretion of anti-inflammatory cytokines, providing evidence that supports the potential application of MSC-DCs in the treatment of IBD.

Keywords: inflammatory bowel disease (IBD), mesenchymal stem cells (MSCs), dendritic cells (DCs), regulatory T cells (Treg), anti-inflammatory effects.

# O-0125 Association between type of screening tests and colorectal cancer risk: A population-based, case–control study

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Background and Aim: We performed the comparative effectiveness study of two types of screening test, fecal occult blood test (FOBT), and colonoscopy for the risk reduction of colorectal cancer (CRC) through a population-based case–control design.

Methods: Using the National Health Insurance Service (NHIS) administrative big data, we identified CRC patients (cases) diagnosed and treated with CRC from January 2009 through December 2013. We selected four matched controls (age, sex, level of socioeconomic status, and smoking) without any cancer for each case. Colonoscopy performed from January 2002 through 6 months and FOBT done from January 2004 through 12 months before the diagnosis/referent date were our primary exposures. We assessed whether the association between the two tests and CRC incidence varied with age, sex, endoscopist specialization, and cancer location. Results: We identified 61 221 cases (12 488 proximal [20.4%], 41 313 distal [67.5%], and 7420 unknown site [12.1%]) and 306 099 controls. Compared with controls, cases were less likely to have undergone colonoscopy (9.3% vs 25.3%, odds ratio [OR], 0.292; 95% CI, 0.283 to 0.3) or FOBT (25.2% vs 32.3%, OR, 0.741; 95% CI, 0.727 to 0.756). Importantly, the association of colonoscopy or FOBT with CRC occurrence was stronger for distal CRC (OR, 0.235; 95% CI, 0.227 to 0.244 for colonoscopy and OR, 0.715; 95% CI, 0.698 to 0.732 for FOBT) than proximal CRC (OR, 0.467; 95% CI, 0.444 to 0.493 for colonoscopy and OR, 0.798; 95% CI, 0.766 to 0.832 for FOBT). In the subgroup analyses, the stronger associations of colonoscopy with a reduced risk of CRC were found in the cases with 50–74 years of age.
(OR, 0.266), male (OR, 0.274), endoscopist specialty of internal medicine (OR, 0.267), and previous diagnostic colonoscopy (OR 0.267). **Conclusion:** Colonoscopy is more strongly associated with a reduced risk of CRC than FOBT and these associations of both tests were considerably stronger for distal versus proximal CRC.

### O-0204 Inhibition of *Helicobacter pylori* by *Lactobacillus gasseri* from human stomach

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**Background:** Attempts have been made to use probiotic *Lactobacillus* as an alternative measure for treating *Helicobacter pylori* (Hp) infection because of the increased prevalence of strains resistant to antibiotics. Currently, the optimal anti-Hp Lactobacillus strains remain for further exploration. The present study was aimed to identify *Lactobacillus gasseri* with anti-Hp activities from the stomach. **Methods:** Actual mucosal biopsies were collected from 192 patients with ulcer dyspepsia. Lactobacillus strains were isolated on Rogosa medium under anaerobic conditions. *Lactobacillus* was identified according to typical colony appearance, Gram-staining, 16S RNA sequence, and phylogenetic typing. Eight *Lactobacillus gasseri* strains were sequenced, and genome sequences were analyzed with bioinformatic approaches. **Results:** Lactobacillus spp. was isolated from 39.1% patients (75/192). These strains belonged to 11 species: *L. salivarius* (35), *L. fermentum* (13), *L. gasseri* (8), *L. reuteris* (5), *L. mucosae* (4), *L. vaginalis* (2), *L. casei* (2), *L. crispatus* (2), *L. oris* (2), *L. plantarum* (1), and *L. rhamnous* (1). Statistical analyses revealed the presence of Lactobacillus spp. in the gastric mucosa did not decrease the prevalence of *Hp*. However, the positive rate of *Hp* in patients colonized with *L. gasseri* was reduced significantly (P < 0.05). This finding suggests that natural colonization of *L. gasseri* in the stomach potentially inhibits the growth of *Hp*. To further characterize these *L. gasseri* strains, whole genome sequencing was performed. The gene encoding bacteriocin (gasserin E and A) was identified from five *L. gasseri* strains. Phylogenetic analyses revealed these strains formed three clusters. They were usually grouped with strains of human origins but not dairy products. **Conclusion:** *L. gasseri* that naturally colonized human stomach potentially inhibits the growth of *Hp*.

### O-0237 Effect of prophylactic clip application for the large pedunculated colorectal polyps: A randomized, controlled trial

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**Background/Aims:** The risk of bleeding is higher after resecting of large pedunculated colorectal polyps, because of the presence of a large artery in the stalk. Preventive methods such as endoloop and epinephrine injection have been proposed in the management of post-polypectomy bleeding in large colonic polyps. For prophylactic clip, there was no randomized controlled study assessing the efficacy in prevention of post-polypectomy bleeding for the large pedunculated polyps. Thus, this randomized controlled trial aimed to confirm the efficacy of application of prophylactic clip in the prevention of post-polypectomy bleeding in large polyps. **Methods:** Patients who had pedunculated colorectal polyps with heads larger than 10 mm and stalks larger than 5 mm in diameter were included. In clip group, hemoclips were applied to the base of the stalk, followed by conventional snare polypectomy. In conventional group, conventional snare polypectomy was done without any preventive management. Immediate and delayed bleeding complications were assessed. This study has been approved by the institutional review board of St. Vincent’s Hospital. **Results:** A total of 75 and 88 polyps were randomized to clip group and conventional group, respectively. Clip application was possible in all the cases in clip group. There were 4 cases of bleeding in clip group (5.3%) and 13 cases in conventional group (14.8%) (P = 0.048). Immediate bleeding episodes occurred in 1/4 polyps in the clip group and 12/13 polyps in the conventional group. One case of delayed bleeding was observed in both groups. **Conclusion:** The application of a prophylactic clip is effective in the prevention of post-polypectomy bleeding in large pedunculated colorectal polyps.

### O-0594 A population-based survey for the risk factors of GERD in an area with high esophageal cancer incidence of China

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**Backgrounds and Aims:** The clinical importance of GERD is not only because of the troublesome discomfort but also because of its predisposition for esophageal adenocarcinoma. Almost no research has reported the epidemiology and risk factors of GERD subgroups in a natural population with high esophageal cancer incidence. The aims of this study were to analyze the epidemiology and risk factors of GERD subgroups in a high esophageal cancer incidence (both squamous cancer and esophageal adenocarcinoma) area of China. **Methods:** A population-based, randomized, cross-sectional study was conducted by site investigation of residents between 45 and 69 years old in Anyang, an area with high esophageal cancer incidence. All the subjects fulfilled CRF and GerdQ questionnaires, underwent the blood test, gastroendoscopy with routine iodine dye and esophageal biopsy. RE was diagnosed according to the Los Angles classification. The subjects were diagnosed as NERD with GerdQ score ≥ 8 without esophageal mucosal break. Silent RE has been defined as the presence of esophageal mucosal injury during EGD in individuals who lack typical or atypical manifestations of GERD. Odds ratios (ORs) and 95% confidence intervals (CIS) were calculated by univariate and multivariate logistic regression in order to examine factors that are potentially associated with RE, NERD, silent RE, and symptomatic RE, respectively. **Results:** (i) Two thousand nine hundred eighteen residents were finally enrolled. Two hundred seventy-four (9.39%) adults were diagnosed RE (58.69 ± 6.77 years, M : F = 216:58, P < 0.001). Two hundred twenty-six (7.75%) were diagnosed as NERD (58.84 ± 6.86 years and M : F = 109:117, P = 0.628). Among RE, 67 (24.45%) fulfilled the silent RE diagnoses (58.85 ± 6.70 years and M : F = 43:15, P < 0.001). The rest
207 RE patients were symptomatic. Among all the subjects, the *H. pylori* infection rate was 40.06%. (ii) Multivariate analysis showed that age, sex, BMI, smoke (former smoker), and frequent dilute food consumption were independent risk factors for RE. Age was an independent risk factor for NERD. And *H. pylori* infection was an independent protective factor for both RE and NERD. (iii) Consumption of dilute food was a significant risk factor for silent RE compared with symptomatic RE in univariate analysis. BMI and consumption of fresh vegetables were significant protective factors for silent RE. Multivariate analysis showed that BMI and consumption of fresh vegetables were independent protective factors for silent RE compared with symptomatic RE. **Conclusions:** A high RE prevalence rate and inverted proportion of RE/NERD were presented in the natural population with high esophageal cancer incidence of China. Frequent dilute food consumption was firstly demonstrated to be an independent risk factor for RE. *H. pylori* infection was found to be an independent protective factor for both RE and NERD. The RE patients with low BMI and infrequent fresh vegetable consumption tend to be “silent.”

**# O-0742 Cytokine levels and survival after esophagectomy for esophageal cancer: A propensity score-matched comparison of operative approaches**

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**Purpose:** In this study, cytokine levels, outcome, and survival rates after esophagectomy for esophageal cancer were retrospectively investigated in a propensity score-matched comparison of operative approaches between minimally invasive esophagectomy (MIE) and open esophagectomy (OE). **Patients and Methods:** Between 2005 and 2014, MIE was performed on a group of 85 patients, which was compared with a group of 104 OE cases. Eventually, 65 paired cases were matched using propensity score matching. **Results:** Although the MIE group underwent a significantly longer operation time than the OE group (MIE vs OE: 536 vs 491 min; *P* = 0.001), the MIE group exhibited less blood loss (250 vs 599 ml; *P* < 0.001) and had a shorter postoperative hospital stay (29 vs 35 days; *P* = 0.038) than the OE group. The serum interleukin-6 levels on ICU admission (671.3 vs 1,450.7 pg/ml; *P* < 0.001) and on POD 1 (497.4 vs 976.1 pg/ml; *P* < 0.001) were significantly lower in the MIE group. The interleukin-10 levels on ICU admission (2.5 vs 7.7 pg/ml; *P* < 0.001), POD 1 (4.00 vs 10.2 pg/ml; *P* = 0.016), and POD 3 (1.6 vs 3.1 pg/ml; *P* < 0.001) were also significantly lower in the MIE group. The 5-year PFS in the MIE and OE groups were 70.6% and 58.7% (*P* = 0.328), respectively, and OS were 64.9% and 50.2% (*P* = 0.101), respectively. **Conclusion:** MIE compared to OE is a less invasive procedure with lower surgical stress for the treatment of esophageal squamous cell carcinoma.

**# O-0774 Filgotinib, a selective JAK1 inhibitor, induces clinical remission in patients with moderate-to-severe Crohn’s disease: 10-week efficacy, safety and exposure–response analysis of the phase 2 FITZROY study**

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Filgotinib is an oral, selective Janus kinase 1 (JAK1) inhibitor, which has demonstrated high efficacy in patients with rheumatoid arthritis. This 20-week phase 2 study was designed to evaluate efficacy and safety of filgotinib in patients with active Crohn’s disease (CD). **Methods:** One hundred seventy-four patients with moderate-to-severe CD (CDAI: 220 to 450, endoscopic evidence of active disease) were randomized 3:1 to 200 mg filgotinib (FIL) or placebo (PBO) QD for 10 weeks. Based on week 10 clinical response, patients continued with filgotinib (200 mg or 100 mg QD) or placebo for an additional 10 weeks. Patients who demonstrated clinical response (CDAI-100) underwent corticosteroid tapering after week 10. Anti-TNF-naïve as well as anti-TNF non-responders were included. Immunosuppressants were discontinued prior to treatment initiation. The primary endpoint is clinical remission (CDAI < 150). Individual exposure to filgotinib was simulated using a population PK model and exposure–response analysis on efficacy (clinical and biological responses) and safety (lipids, hemoglobin, neutrophils, and lymphocytes) endpoints versus AUC is also presented. **Results:** Filgotinib induced clinical remission in 47% of the patients, compared to 23% in placebo (*P* = 0.0077), and improved PRO2 score and quality of life compared to placebo. Numerically, more patients on filgotinib normalized CRP (FIL: 27%, PBO: 14%) and showed an improvement of at least 50% in SES-CD score (FIL: 25%, PBO: 13.6%). Histopathology total score decreased more significantly with filgotinib compared to placebo (*P* < 0.05). Filgotinib was safe and well tolerated. In the single-dose level study with 200 mg filgotinib, the exposure (AUC) was similar irrespective of the clinical or biological response/remission. In addition, no clinically relevant exposure–response relationship was observed for any of the safety endpoints of interest. **Conclusion:** These data of filgotinib suggest a favorable risk/benefit profile, showing its potential as oral treatment with a novel mechanism of action for CD.

**# O-0795 Four-dimensional ultrasonography for therapeutic radiofrequency ablation for hepatocellular carcinoma include the examination of the contrast four-dimensional ultrasonography**

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**Introduction:** Studies to evaluate the tumor vascularity in HCC have been done extensively with various imaging modalities because the finding of the vascularity is helpful to evaluate the biological features of the tumor. In the present study, we investigated whether 4D real-time flow imaging is useful to display the accurate position of percutaneous radiofrequency ablation (RFA) needle in the tumor and evaluated the efficacy of RFA therapy in patients with HCC. **Materials and Methods:** Fifty-eight patients with 58 HCC lesions (44 men and 14 women, aged 40 to 83 years with a mean age of 61.9 years), admitted to our Masuko Memorial Hospital
between November 2007 and February 2011, were enrolled to the present study. Their diagnosis was confirmed by dynamic CT and celiac angiography. Based on Child–Pugh score, 50 patients were diagnosed as grade A and 8 patients as grade B. All patients enrolled showed hypervascular enhancement of HCC on contrast-enhanced US and/or dynamic CT. The diameters of tumors were 1.1–2.0 cm in 30 nodules, 2.1–3.0 cm in 19, and 3.1–5.0 cm in 9, respectively. All patients gave written informed consent, and this protocol had been approved by the Human Studies Committee at Masuko Memorial Hospital US imaging. We used VOLUSON730 (GE Medical systems, Milwaukee), APLIO XG (Toshiba Medical Systems), and IU22 (Phillips) for RFA therapy with a convex probe as US system. APLIO and VOLUSON machine probe is a mechanical probe, and IU22 probe is a matrix array probe. 4D Real-time refers here to the display of three-dimensional moving images composed of three orthogonally intersecting scans in the transverse, longitudinal, and horizontal planes. RF ablation was carried out under a real-time US guidance. We used a radiofrequency generator with 200 W power connected to a 17-gauge perfusion needle (Radionics Inc., Burlington, MA); the circuit was closed through a dispersive electrode. Results: It was possible to obtain accurate position of cool-tip needle and to perform RFA procedure in all 58 HCC patients using 4D real-time US machines. We confirmed by various angles that the needle was inserted into the center of the tumor nodule. The simultaneous study before RFA therapy showed the inflow of arterial blood and tumor stain. And importantly it appeared that 4D real-time US provided much perceptible information on the spatial relationship between RFA needle and the target lesion and resulted in accurate. We experienced the treatment of 58 patients with HCC by RFA using 4D real-time ultrasound system. Application of this method allowed a more accurate cauterization of the tumor.

# O-0802 Is there an association between enteric methane (CH₄) production and symptoms in patients with unexplained gastrointestinal (GI) symptoms?

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Background: In humans, enteric methane (CH₄) production is highly variable and related to the gastrointestinal microbiome and diet. Previous work suggests that CH₄ production is more common in patients with “constipating” conditions. We aimed to explore the link between GI symptoms and breath CH₄ exhalation in patients with unexplained GI symptoms.

Methods: Consecutive patients (n = 100) with unexplained GI symptoms underwent a combined H₂/CH₄ breath test after ingestion of 75 g of glucose. H₂ and CH₄ were measured by Breath tracker microlyser (Quintron, USA). GI symptoms were assessed utilizing the (Structured Assessment of Gastrointestinal Symptoms Instrument [SAGIS]). The association between methane exhalation and symptoms during the 2 weeks prior the test were evaluated using nonparametric test.

Results: One hundred consecutive patients (55f), aged 52.2 ± 15.7 years (mean ± SD) were included. Of these, 14 with positive GBT and 19 without SAGIS data were excluded, resulting in 67 datasets available for analysis. CH₄ peak and baseline values were highly correlated (r = 0.96, P < 0.001). Methane peak (and baseline) inversely correlated with the SAGIS diarrhea score (r < 0.35, P < 0.01, Fig. 1). Contrary to the current opinion, CH₄ exhalation was not associated with constipation (r < 0.1, P > 0.4). In addition, excessive belching and acid eructation were significantly associated with the baseline and peak CH₄ exhalation (r all ≥0.3, P all <0.04).

Conclusions: There is an inverse

![Figure 1](https://example.com/figure1.png)
association between CH₄ exhalation and diarrhea symptoms. At the same time, CH₄ is associated with bloating and acid eructation. These data suggest that CH₄ or metabolic products from CH₄ producing microbes modulate human gut function.

# O-0856 Entyvio lengthen dose interval study (ELDIS): An audit of dose frequency versus remission

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**Background:** Vedolizumab (VED), a gut-selective α4β7 integrin monoclonal antibody, is effective for induction and maintenance of remission in patients with moderate to severe ulcerative colitis (UC) and Crohn’s disease (CD). The recommended treatment schedule is infusion at weeks 0, 2, and 6, then every 8 weeks thereafter. The GEMINI long-term safety (LTS) study was an open-label study that determined the safety of VED maintenance. Enrolled subjects received 4-weekly VED. Upon completion of the LTS study, subjects were switched to 8-weekly VED according to Pharmaceutical Benefits Scheme (PBS) requirements. It is currently not known the benefit of 4-weekly VED treatment versus 8-weekly.

**Aim:** Our aim is to determine the proportion of subjects who flared after switching from 4-weekly to 8-weekly VED.

**Methods:** Study sites that recruited patients into the GEMINI LTS were audited. An online survey was devised to collect data on the demographics, biochemical, and endoscopic findings related to flare. Descriptive statistics, Fisher’s exact test, and univariate analysis were used.

**Results:** There were 29 patients who extended from 4-weekly to 8-weekly vedolizumab; 16 patients had UC; and 13 had CD. There were 18 males and 20 non-smokers, 7 ex-smokers, and 2 smokers. The mean age of the patients was 48.8 (±13.3) years old, and the mean duration of disease was 17.2 (±8.3) years. The median duration until a flare was 2.8 (±1.7) months. There were five patients (17.2%) who developed recurrence of IBD on switching from 4-weekly to 8-weekly (4 UC, 1 CD). The risk of a flare did not differ according to the type of IBD (P = 0.16). On univariate analysis, there was no association between flare with age, gender, smoking status, duration of IBD, extent of UC, and location and behavior of CD.

**Conclusion:** Approximately 1 in 7 subjects flared when switched from 4-weekly to 8-weekly VED. There were no clinical predictors of flare. This is the first study to demonstrate that certain subjects require more frequent dosing of VED than approved on the PBS. Biomarker studies are warranted to identify which patients will benefit from more frequent dosing.

# O-0877 The expression of gene profiles on hepatocellular carcinoma cells with different intracellular hepatitis C viral load

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**Objectives:** With the different hepatitis C virus (HCV) replication reported among individual hepatocytes in chronic HCV infection by identifying hepatocytes with different HCV RNA levels, we want to study the effects of different intracellular viral loads in HCV-infected cells by our previously established fluorescence-activated cell sorting (FACS) protocol. The present study aimed to further study the gene expression on different hepatocellular carcinoma (HCC) cells with different HCV viral load. **Methods:** We used the JFH1-EYFP viral fluorescence intensity to sort the high and low viral load cells after 5 days infection in vitro which has been shown in our previous study that infected cells efficiently and accurately discriminated between high- and low-viral load cell populations. The next generation sequence-RNA sequence was used to clarify the miRNA and mRNA gene network between HCV-high- and HCV-low-infected cells of the HCC cell line. Venn diagram summarizing the probe sets that were differentially expressing between the Huh7.5.1 versus each differential viral load cell population and miRDB and miRTar databases were used to predict HVL and LVL/S2 unique miRNA target genes. **Results:** After analyzing the NGS dataset and miRNA microarray dataset of the significant transcripts, three miRNAs were unique for the LVL/S2 cells and nine miRNA unique for the HVL. Twenty-three miRNA were common for all three viral load groups. We verified them by q-PCR and data confirmed the array data expression level. We found that high viral loads were associated with cell inflammation- and cell death-associated pathway, and the low viral loads were associated many stress response- and cell adhesion molecular (CAMs)-related genes. **Conclusions:** With the established cell sorting protocol, we have demonstrated that different gene network between HCV-high- and HCV-low-infected cells in JFH1-EYFP infectious cells exists.

A boarder gene regulation map between high and low viral load cell populations may be provided which might be a fundamental base for further studies on the hepatocarcinogenesis.

# O-0945 L-Ornithine L-aspartate in acute overt hepatic encephalopathy

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**Background:** High-quality data on efficacy of L-ornithine L-aspartate (LOLA) in cirrhotics with acute overt hepatic encephalopathy (HE) is missing. We aimed to evaluate the efficacy of intravenous LOLA in reversal of acute overt HE in cirrhotics. **Methods:** This prospective double-blind randomized placebo controlled trial was conducted at the gastroenterology department of two tertiary care institutes in India. Three hundred and seventy
cirrhotics with acute overt HE were screened. After exclusion, 196 (52.97%) patients were randomized to receive either intravenous infusions of LOLA (n = 98), 30 g daily or placebo (n = 98) for 5 days. The study drug LOLA was provided by Win-Medicare Pvt. Ltd. (India). Randomization was done centrally through http://www.sealedenvelope.com/. Standard of care treatment (including lactulose) was given in both groups. Fasting venous ammonia levels were estimated daily from 0–5 days. Serum concentration of tumor necrosis factor α, interleukin 1β, interleukin 6, and interleukin10; hemogram; and liver and renal function tests were performed at days 0 and 5. Primary outcome was mental state grade at day 5 of treatment. This research has been approved by an ethical committee. Results: After 5 days of treatment, there was no significant difference in mental state grade between LOLA and placebo groups. However, the mean time of care treatment (including lactulose) was given in both groups. Fasting drug LOLA was provided by Win-Medicare Pvt. Ltd. (India). Randomization of dysregulated microbiota syndrome (IBS) has not to be completely elucidated. Recently, the concept – brain axis has been proposed to be a suitable hypothesis. Stress and dysbiosis are associated with IBS, respectively, but how they interact with the gut microbiota metabolites may be associated with neuroinflammation and results in visceral hypersensitivity. Methods: Using a chronic water avoidance stress (WAS) model to mimic the stress facet of IBS in the present study, we examined the visceral sensitivity, neuroinflammation in hippocampus and spinal cord, the profile of the gut microbiome, and the metabolites of gut microbiota—the short chain fatty acids (SCFAs). After the last WAS, feces samples were collected to characterize the microbiota using 16s rRNA sequencing methods, and SCFAs were determined using UPLC-MS/MS. Visceral sensitivity to colorectal distension (CRD) were measured by abdominal withdrawal retraction (AWR) scores the next day after WAS were completed. Activation of microglial cells in hippocampus and spinal cord, reflected by Iba-1 expression, was evaluated using immunofluorescence assay. Results: In response to CRD, AWR scores were significantly higher in the WAS rats compared with the sham group for the pressure of 60 mmHg (3.47 ± 0.13 vs 3.06 ± 0.12, P < 0.05), and for the pressure of 20 mmHg, AWR score difference between the two groups was approximate to be of significance (1.89 ± 0.16 vs 1.43 ± 0.15, P = 0.059). The weight gain during the stress procedure was significantly decreased in the WAS group (77.29 ± 3.27 vs 86.43 ± 2.02, P < 0.05). Increased responses to CRD were accompanied by significant activation of the microglial cells of spinal cord rather than hippocampus. Partial least squares discriminant analysis (PLS-DA) showed great modulating effects of WAS on the gut microbiota structure. Prevotellaceae on Family and Prevotella-1 on Genus level were significantly increased in WAS group. In the case of the microbiota metabolites, AWR scores for the pressure 40 mmHg was inversely correlated with propionate content in the feces (r = −0.550, P < 0.05), as well as the scores for the pressure 40 mmHg can be inversely predicted by acetate (r = −0.694, P < 0.01) and valerate (r = −0.556, P < 0.05).

Conclusion: WAS-induced visceral hypersensitivity is associated with neuroinflammation and dysbiosis, and moreover, the neuroinflammation may be caused by dysbiosis. Psychological stress can result in significant shifts of microbiota structure, followed by changes of microbiota metabolites SCFAs, which can predict the visceral sensitivity of the IBS rat.

# O-1069 Chronic atrophic gastritis in Italy: A population study on 10 000 people

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Background: Chronic atrophic gastritis (CAG) represents a stomach precancerous condition often related with Helicobacter pylori (H.p) infection. Gastropanel® is a non-invasive test able to detect both CAG and H.p infection. Aim: The aim of the present study is to investigate the frequency of CAG in a study population in primary care setting by means of a non-invasive test. Materials and Methods: Ten thousand dyspeptic patients were enrolled from two different areas of Italy. In the first one—Group A—7400 patients were enrolled (M : F = 1:2.2, mean age 53 years) from 2003 to 2014, in the second one—Group B—2600 patients (M : F = 1.5:2.3, mean age 56 years) were enrolled from 2011 to 2013. Upper GI endoscopy with biopsies according with OLGA staging and Gastropanel® (Biohit Oyj, Helsinki, Finland) were performed in every patient. Serological diagnosis of CAG: pepsinogen-1 < 25 microg/L and gastrin-17 > 14 pmol/L. Results: Overall, CAG was diagnosed in 716 out of 10 000 patients: Group A: 608 CAG—mean age 57 years; 2.492 H.p + non-atrophic gastritis (NAG)—mean age 54 years; Group B: 108 CAG (mean age 58 years), 643 H.p + NAG (mean age 59 years). Conclusions: Overall, CAG was found in 7.16% of patients. In Group A, CAG was found in 608/7400 patients (8.2%) and in Group B in 108/2600 patients (4.15%). The mean age of CAG was higher than in patients with NAG H.p + and normal population (Group A: CAG = 57 years, NAG H.p + p. 54 years, normal subjects 44 years; Group B: CAG 58 years, NAG H.p - p. 59 years, normal subject 47 years).
Impact of EUS-FNA from peritoneal lesions for avoiding diagnostic laparoscopy (IPAD study): The first prospective study (preliminary results)

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Introduction: In patients with undiagnosed peritoneal lesions, diagnostic laparoscopy is often required for tissue diagnosis. EUS-FNA is another possible approach but has never been prospectively evaluated.

Aim: Our aim is to study the efficacy of EUS-FNA for avoiding diagnostic laparoscopy in patients with peritoneal lesions.

Methods: From December 2015 to October 2016, 18 consecutive patients with peritoneal lesions were enrolled. Diagnostic laparoscopy was planned if pathological result of EUS-FNA was negative.

Results: CT findings were soft tissue nodules/mass deposits in peritoneum (n = 13; 72.2%), ascites (n = 12; 66.7%), omental cake appearance (n = 6; 33.3%), and stranding of mesentery (n = 3; 16.7%). Two benign cases were pancreatic ascites confirmed by laparoscopy and peritoneal tuberculosis confirmed by successful treatment. EUS-FNA showed positive results of malignancy in 14/18 patients (77.8%) and 28/54 passes (51.8%). Of 28 passes with positive results, 22/28 (78.6%) and 6/28 (21.4%) were obtained from hypoechoic and hyperechoic lesions, respectively. No adverse events were observed. Of four patients with negative results of EUS-FNA, two patients underwent diagnostic laparoscopy showing multiple omental and peritoneal nodules from metastatic stomach cancer (n = 1) and pancreatic ascites (n = 1); another two patients refused laparoscopy; one had advanced staged pancreatic cancer with poor performance status and another was clinically diagnosed as peritoneal tuberculosis with successful treatment. The sensitivity and specificity of EUS-FNA were 87.5% and 100%, respectively. Diagnostic laparoscopy can be avoided in 14/18 (77.8%) patients.

Conclusions: In this prospective study, EUS-FNA has a high sensitivity rate for diagnosing causes of peritoneal lesions and can avoid diagnostic laparoscopy in majority of patients.

**This study was accepted for oral presentation in research forum, DDW 2017, at Chicago.**

Table 1  Demographic data of patients underwent EUS-FNA from peritoneal lesions

| Parameter                      | Value (%) |
|--------------------------------|-----------|
| Male (n [%])                   | 9/18 (50%)|
| Age (year ± SD)                | 60.9 ± 14.7|
| Presenting symptoms            |           |
| Weight loss                    | 18/18 (100%)|
| Jaundice                       | 10/18 (55.6%)|
| Abdominal distension           | 9/18 (50%)|
| Abdominal pain                 | 7/18 (38.9%)|
| Final diagnosis                |           |
| Pancreatic cancer              | 6/18 (33.3%)|
| Gallbladder                    | 3/18 (16.7%)|
| Primary peritoneal carcinoma   | 2/18 (11.5%)|
| Gynecological cancer           | 2/18 (11.1%)|
| Bile duct cancer               | 1/18 (5.6%)|
| Colorectal cancer              | 1/18 (5.6%)|
| Gastric cancer                 | 1/18 (5.6%)|
| Benign disease                 | 2/18 (11.1%)|
| CT scan findings               |           |
| Soft tissue nodules/mass deposit in peritoneum | 13/18 (72.2%)|
| Ascites                        | 12/18 (66.7%)|
| Omental cake appearance        | 6/18 (33.3%)|
| Stranding of mesentery         | 3/18 (16.7%)|
| EUS finding of peritoneal lesions |         |
| Ascites                        | 12/18 (66.7%)|
| Hypoechoic nodules deposit in peritoneum or omentum | 11/18 (61.1%)|
| Thickening hyperechoic omental cake | 10/18 (55.6%)|

Table 2  Diagnostic yield of EUS-FNA from peritoneal lesions

| Parameter                      | Value (%) |
|--------------------------------|-----------|
| Sensitivity                    | 87.5      |
| Specificity                    | 100       |
| PPV                            | 100       |
| NPV                            | 50        |
| Accuracy                       | 88.9      |
| Avoidance rate for diagnostic laparoscopy | 77.8      |