0019
Case report: cervical tuberculosis diagnosed after treatment for cervical cancer
Patricia Ann Factor, Jean Anne Toral, Sybil Lizanne Bravo
University of the Philippines Manila, Manila, The Philippines
Tuberculosis has been shown to coexist with malignancy, but tuberculosis and cancer in the cervix is extremely rare. This is the first case of cervical tuberculosis diagnosed in a cervical cancer patient who has undergone concurrent chemoradiotherapy and brachytherapy.
This is the case of a 38 year old G2 P2 (2002) diagnosed with Squamous cell carcinoma, large cell non-keratinizing, Cervix, Stage IIIB. The patient underwent pelvic extended beam radiotherapy from February 3 to March 19, 2015. Concurrently, she was given 6 cycles of chemotherapy with Cisplatin. Brachytherapy with 4000 centi Grays was given in March 27–29, 2015. On follow up one month after the last dose of brachytherapy, there was note of anodularity on the anterior lip of the cervix. A cervical punch biopsy was done which revealed: Chronic granulomatous inflammation with Langhan’s type multinucleated giant cells consistent with tuberculous infection. Negative for atypical/ malignant cells.
This patient was started on Anti-Koch’s medication in the form of 2 months intensive treatment with Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol, then 10 months of Isoniazid and Rifampicin. She was seen on the 6th month of treatment at the Out Patient Clinic, there was note of decrease in the size of the nodularity and the rest of the cervix was noted to be smooth. Her Pap Smear was negative for intraepithelial lesion.
Cervical tuberculosis complicating cervical malignancy is curable with Anti-Koch’s therapy and has not been shown to adversely affect the course of the carcinoma.

0030
The accuracy of frozen section of uterine lesions in the practice of gynecologic surgery. A retrospective assessment study in a government tertiary training hospital
Jimmy Billod, Efren Domingo, Nelson Geraldine
1University of the Philippines- Philippine General Hospital, Manila, The Philippines, 2Baguio General Hospital and Medical Centre, Baguio City, The Philippines
Objectives: This study aimed to determine of accuracy, sensitivity and specificity of frozen section in the diagnosis of uterine neoplasm in a tertiary training government hospital.
Methodology: A retrospective validation study from 2004–2015 involving cases of uterine lesions from Gynecologic surgeries. All histopathologic results of frozen and paraffin sections were retrieved and reviewed. Chi square test with 2x2 Fischer Exact test adjustment were used to check for associations. Accuracy indices of FS tool were estimated such as sensitivity, specificity, likelihood rations, negative and positive predictive values, and overall accuracy. A p-value of <0.05 alpha is considered significant.
Results: A total of 143 uterine specimens were submitted for frozen section (FS) diagnosis. The utilization rate of FS is 1% per year. The FS results were associated with the final histopath results with 96% agreement rate. Utilizing a median number of 3 sections per specimen provides an overall accuracy rate of 97%. The accuracy rate of FS is equal between combined benign-premalignant and malignant cases at 96%. The accuracy rate is not statistically affected by the procedure by which the specimen was taken; the source and gross morphology of the specimen. Moreover, a minimum of 11 sections per specimen is needed to arrive at 99-100% accuracy rate. The accuracy rate particularly for endometrial lesions is between 94 and 100%.
Conclusion: Accuracy rates of frozen section on uterine lesions is high regardless the sampling procedure and source of the specimen. Increasing the number of section during FS parallels that of the final histopathologic diagnosis. FS for uterine lesions is vital and cost-effective intraoperative decision tool to maximize care of patients.
Key words: Accuracy rate, Frozen section, Uterine lesion
hysterectomy with lymphadenectomy. It aims to review the influence of nodal metastases to recurrence.

**Methodology:** This was a retrospective cohort study of patients with early stage and locally advanced cervical who underwent radical hysterectomy with lymph node dissection from 2004-2013 at the Philippine General Hospital. 12 patients received neoadjuvant therapy prior to surgery. Chi square test with adjustment of Fischer Exact test were utilized to analyse associations.

**Results:** A total of 224 patients were included in the study. Majority had a final histopathologic diagnosis of squamous cell carcinoma and adenocarcinoma at 68% and 29%, respectively. About 3% comprised the poor histologic types. The reported rates of metastasis to pelvic and paraaortic nodes were 10.4% and 0.5%, respectively. Tumor size >4 cm and stromal invasion >1/3 were significantly associated with nodal metastasis. There were no reported nodal metastases in patients with tumor size <2 cm, stromal invasion <1/3 and those who received neoadjuvant therapy. Recurrence rate was reported to be 1.2% in patients with nodal metastases.

**Conclusion:** Tumor size and cervical stromal invasion predicts nodal involvement in early and locally advanced cervical cancer. Recurrence rate in these group of patient is considerably low, however, systematic lymphadenectomy still is recommended to detect nodal micrometastases to cater adjuvant treatment which eventually reduce recurrence. Neoadjuvant therapy may have resolved nodal metastases prior to surgery.

**Keywords:** Cervical cancer, nodal metastasis, neoadjuvant therapy, radical hysterectomy

**Objective:** The aim of this study is to study the effectiveness, safety and acceptability of visual inspection with acetic acid (VIA) and cryotherapy based single-visit approach in cervical cancer prevention (CCP).

**Methodology/process:** A descriptive community-based study was conducted from July 2013 to October 2014. Well-trained central CCP mobile team from Central Women’s Hospital (CWH), Yangon, visited to Kungyangon Township, Taikkyi Township and South Dagon Township of Yangon Region fortnightly during the weekends and mass screening was conducted using VIA and cryotherapy based single-visit approach.

**Results/outcomes:** During 21 visits, 4901 married women of 30-49 years aged group were screened and screen coverage was 7.2%. Test was positive in 228 women and screen-positive rate was 4.65%. Cryotherapy was given to 119 eligible women after proper counseling on single visit and treatment rate was 97.8%. Five women needed Loop Electrosurgical Excision Procedure (LEEP) surgery. Five women had invasive lesion on histology. Watery vaginal discharge for 2 to 3 weeks was the only symptom reported by all on one-month follow up. On one-year follow up visit, 4 women had persistent VIA positive lesion and cure rate was 97.9% with defaulter rate of 15.7%. All were happy with screening with good compliance with home-care instructions. During screening visits, VIA training was given to 53 local basic health staff to sustain CCS.

**Conclusion:** Screen and treat single-visit approach using VIA and cryotherapy is simple, practical and effective technology at reasonable expenses to control cervical cancer in low and mid-income countries including Myanmar.

**Key words:** Cervical cancer, Screening, Prevention, VIA, Cryotherapy

**Funding:** American Society of Clinical Oncology (Conquer Cancer Foundation), Seoul National University Hospital (Korea International Cooperation Agency)

**0048**

Silencing MTA2 inhibit tumor metastasis through activation of ASK1/MKK3/p38 MAPK pathways and induction of microRNA-7 by targeting Sp1 expression in human cervical cancer cells

**Yi-Hsien Hsieh**

1. Department of Biochemistry, School of Medicine, Chung Shan Medical University, Taichung, Taiwan, 2.Institute of Biochemistry, Microbiology and Immunology, Chung Shan Medical University, Taichung, Taiwan

Cervical cancer is the second most common neoplastic disease among women worldwide, and treatment of
recurrent and metastatic cervical cancer remains a challenge. Metastasis associated or metastasis antigen (MTA) family is central components of the Mi-2/NuRD complex, which is thereby regulating global gene expression networks. Previous studies shown MTA2 highly expressed in several tumors, including hepatocellular carcinoma, gastric cancer, breast cancer and glioma. However, the biological function and gene of MTA2 in cervical cancer remained unknown. Therefore, this study was to examine the biological function of MTA2 on cervical cancer. Immunohistochemistry, western blotting and RT-PCR results shown MTA2 protein and mRNA expression are higher in SiHa and HeLa cells than in C33A cells, and cervical cancer tissue correlated significantly with tumor differentiation and tumor grade. Using boyden chamber motility assay demonstrated that the effect of MTA2 depletion were inhibited metastasis ability, but not involved of the cells proliferation by MTT assay and flow cytometer analysis. Furthermore, the protease array indicated the MTA2 knockdown in SiHa and HeLa cells decreased MMP12 protein and mRNA levels. The western blot data shown knockdown of MTA2 were promoted ASK-1, MEK-3, p38/MAPK signaling pathway activation and inhibited the expression of MMP12, as demonstrated by the treatment of RNA interference (siRNA) or phatho-p38 inhibitor (SB203580). Moreover, Western blotting showed that knockdown of MTA2 expression may elevate levels of miR-7 and reduce Sp-1 protein expression. The protein levels of Sp1 were upregulated after transfection with miR-7 inhibitor that reversed cell metastasis and invasion in HeLa and SiHa cells. In addition, in vivo studies using tail intravenous injection in mice models indicated that MTA2 knockdown significantly inhibited metastasis to lung. These results demonstrated that MTA2 plays an important oncogenic role in the metastasis of cervical cancers and may open interesting perspectives to the strategy in human cervical cancer treatment.

0052 Prediction model for 30-day morbidity after gynecological malignancy surgery
Soon-Beom Kang, Seung-Hyuk Shim, Sun-Joo Lee, Soo-Nyung Kim
Konkuk University School of Medicine, Seoul, Republic of Korea
Objective: The potential risk of postoperative morbidity is important for gynecologic cancer patients because it leads to delays in adjunctive therapy and additional costs. We aimed to develop a preoperative nomogram to predict 30-day morbidity after gynecological cancer surgery.

Methods: Between 2005 and 2015, 533 consecutive patients with elective gynecological cancer surgery in our center were reviewed. Of those patients, 373 and 160 patients were assigned to the model development or validation cohort, respectively. To investigate independent predictors of 30-day morbidity, a multivariate Cox regression model with backward stepwise elimination was utilized. A nomogram based on this Cox model was developed and externally validated. Its performance was assessed using the concordance index and a calibration curve.

Results: Ninety-seven (18.2%) patients had at least one postoperative complication within 30 days after surgery. After bootstrap resampling, the final model indicated age, operating time, and serum albumin level as statistically significant predictors of postoperative morbidity. The bootstrap-corrected concordance index of the nomogram incorporating these three predictors was 0.656 (95% CI, 0.608-0.723). In the validation cohort, the nomogram showed fair discrimination [concordance index: 0.674 (95% CI = 0.619-0.732] and good calibration (P = 0.614; Hosmer-Lemeshow test).

Conclusion: The 30-day morbidity after gynecologic cancer surgery could be predicted according to age, operation time, and serum albumin level. After further validation using an independent dataset, the constructed nomogram could be valuable for predicting operative risk in individual patients.

0053 Impact of adjuvant hysterectomy on prognosis in patients with locally advanced cervical cancer treated with definitive concurrent chemoradiotherapy: a meta-analysis
Seung-Hyuk Shim, Soon-Beom Kang, Sun-Joo Lee, Soo-Nyung Kim
Konkuk University School of Medicine, Seoul, Republic of Korea
Objective: We investigated the effect of adjuvant hysterectomy (AH) on prognosis in locally advanced cervical cancer (LACC) patients treated with concurrent chemoradiotherapy, through meta-analysis.

Methods: EMBASE and MEDLINE databases and the Cochrane Library were searched for published studies comparing LACC patients who received AH after chemoradiotherapy with those who did not, through April 2016. Endpoints were mortality and recurrence rates. For pooled estimates of the effect of AH on
mortality/recurrence, random- or fixed-effects meta-analytical models were used.

**Results:** Two randomized trials and six observational studies (AH following chemoradiotherapy, 630 patients; chemoradiotherapy, 585 patients) met our search criteria. Fixed-effects model-based meta-analysis indicated no significant difference in mortality between the groups [odds ratio (OR) = 1.01, 95% confidence interval (CI): 0.58-1.78, \( P = 0.97 \)] with low cross-study heterogeneity \( (P = 0.73 \) and \( I^2 = 0) \). This pattern was observed in subgroup analysis for study design, radiation type, response after chemoradiotherapy, and hysterectomy type. The pooled OR for AH and recurrence was 0.59 \( (95\% \text{ CI: 0.44-0.79, } P < 0.05) \) with low cross-study heterogeneity \( (P = 0.289 \) and \( I^2 = 17.8) \), favoring the AH group. However, this pattern was not observed in the subgroup analysis for the randomized trials. There was no evidence of publication bias.

**Conclusion:** In this meta-analysis, AH following chemoradiotherapy did not improve survival in patients with LACC, although it seemed to reduce the risk of recurrence. Concerning the significant morbidity of AH after chemoradiotherapy, routine use of AH should be avoided.

0054

Prognostic significance of pretreatment leukocyte alterations in patients with epithelial ovarian cancer

Naoko Komura, Seiji Mahuchi, Eriko Yokoi, Katsumi Kozasa, Hiromasa Kuroda, Michiko Kodama, Kae Hashimoto, Kenjiro Sawada, Tadashi Kimura

**Objective:** Leukocyte alterations including leukocytosis, neutrophilia or elevated neutrophil to lymphocyte ratio (NLR) have been occasionally observed and been associated with disease severity and poor prognosis in human malignancies. However the prognostic significance of leukocytosis or elevated NLR in ovarian cancer patients remains unclear. We conducted a retrospective study to investigate the prognostic significance of pretreatment leukocytosis and elevated NLR in patients with epithelial ovarian cancer.

**Methods:** Clinical data from 344 epithelial ovarian cancer patients treated with operation and/or chemotherapy from April 2007 to March 2016 were collected, and retrospectively reviewed. Leukocytosis, neutrophilia or elevated NLR were defined as leukocyte count exceeding 10 000/ml, neutrophil count exceeding 8 000/ml or NLR exceeding 4.0. Univariate or multivariate analysis was employed to evaluate the association between pretreatment leukocytosis, neutrophilia or elevated NLR and staging, rate of optimal surgery and progression-free survival (PFS).

**Results:** Leukocytosis (24 cases), neutrophilia (24 cases) and elevated NLR (142 cases) were found to be associated with short PFS (log-rank: \( P < 0.005 \)). Elevated NLR was associated with advanced clinical stage \( (p < 0.0001) \) and decreased optimal surgery ratio \( (P = 0.0011) \). Multivariate analysis demonstrated that leukocytosis, neutrophilia and elevated NLR were predictive of short PFS (hazard ratio: leukocytosis 3.00 [1.36-5.93], \( P = 0.0087 \), neutrophilia 2.51 [1.23-4.66], \( p = 0.0131 \), elevated NLR 1.54 [1.03-2.29], \( p = 0.0337 \)).

**Conclusion:** Leukocytosis, Neutrophilia and elevated NLR are independent poor prognostic factor in epithelial ovarian cancer patients.

0058

Dose-dense paclitaxel and carboplatin for ovarian carcinoma among Korean population: single institution experience

Min Kyu Kim1, Min Jeong Yun2

1Samsung Changwon Hospital, Changwon-si, Republic of Korea, 2Samsung Medical Center, Seoul, Republic of Korea

**Objective:** After JGOG 3016 trial, several studies have been done to evaluate effectiveness of dose dense paclitaxel and carboplatin among advanced ovarian carcinoma. We undertook this study to investigate the chemotherapy induced toxicity and quality of life during chemotherapy comparing dose dense paclitaxel and carboplatin (dd-TC) with conventional paclitaxel and carboplatin (c-TC) among Korean population.

**Methods:** A retrospective review of ovarian cancer patients who were treated in Department of Obstetrics and gynecology, Samsung Changwon Hospital by single surgeon was done. Patients with ovarian cancer who received six cycle of either c-TC and dd-TC (carboplatin AUC 6 mg/mL per min on day 1 and paclitaxel 80 mg/m² on days 1, 8, and 15) was found. We survey of patient’s QoL by using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire C30 (EORTC QLQ-C30) version 3.0 and its ovarian-specific module QLQ-OV28. We check Clinical information was extracted from the medical record.

**Results:** Total patient was 17. Of these, 8 patients were c-TC group and 9 were dd-TC group. There were two refusal cases during chemotherapy not related with chemotherapy associated toxicity. The dd-TC regimen was associated with a higher frequency of gastrointestinal toxicity than the c-TC regimen. But other
chemo induced toxicity or patient’s QoL are not statistically significantly different between two treatment arms.

Conclusions: It show that chemotherapy induced toxicity and quality of life in the dd-TC regimen achieved comparable tolerability and quality of life to the c-TC regimen. Continuous long term and large scale study is needed in the future.

0059
The efficacy and safety of novel oral anticoagulants in patients with gynecologic cancer-associated venous thromboembolism: our institution’s experience
Yoshiko Kurose, Tomonori Nagai, Takahiro Uotani, Yukiko Itaya, Taichi Akahori, Yasushi Takai, Hiroyuki Seki
Saitama Medical Center, Saitama Medical University, Kawaage-City/Saitama, Japan

Objectives: In the initial treatment of gynecologic cancer-associated venous thromboembolism (VTE) we had used unfractionated heparin which required careful adjustment of dosage along with long-term hospitalization. In recent years, however, novel oral anticoagulants (NOACs) have been available also for gynecologic cancer-associated VTE patients as initial treatment. Here we report our experience with NOACs for these patients in our institution.

Methods: We evaluated the efficacy and safety of NOACs in 27 gynecologic cancer patients who were diagnosed with VTE by ultrasound sonography or/and contrast-enhanced CT between November 2014 and November 2016.

Results: The median levels of D-dimer at the time of diagnosis of VTE was 11.27 μg/ml (1.35-162.1), and the median period until D-dimer normalization was 22 days (7-221). The median duration of hospitalization for the initial treatment was 33 days (16-86) and 2 patients were treated without hospitalization. Adverse effects associated with NOACs were observed in 2 cases, such as uterine hemorrhage of grade 2, and nasal hemorrhage of grade 3.

Conclusion: NOACs were considered as an effective and secure therapeutic option for gynecologic cancer-associated VTE.

0060
Comparison of open and laparoscopic techniques of Tenckhoff catheter implantation for intraperitoneal chemotherapy in ovarian cancer treatment
Chong-Chi Chiu1,2
1Department of Surgery, Chi Mei Medical Center, Liouying and Tainan, Taiwan, 2Department of Electrical Engineering, Southern Taiwan University of Science and Technology, Tainan, Taiwan

Background: Because of this natural history, ovarian cancer is an ideal target for intraperitoneal (IP) therapy. Development of a safe and effective method for providing long-term access to the peritoneal cavity is extremely important.

Method: Tenckhoff catheter was used in 16 patients with stage III ovarian cancer diagnosed after primary or second-look surgeries. Five patients received catheter implantation during the first open surgery, and eleven received catheter implantation during the second-look laparoscopic surgery.

Results: In 16 patients, complications related to the implantation procedure and IP chemotherapy treatment was registered. In-flow obstruction of device occurred in 2 patients, one patient in each groups. There was no viscous perforation or catheter related infectious peritonitis. Grade V-VII pain developed in the patients of open group, but not with catheters implanted under laparoscopic group (Grade I ~ III).

Conclusion: The complication rate of Tenckhoff implantation for IP chemotherapy is low in open and laparoscopic groups but patient pain is comparatively low with laparoscopic technique.

0067
Expression of tissue factor in epithelial ovarian carcinoma is involved in the development of venous thromboembolism
Wataru Takao1, Manabu Sakurai1, Masahiko Gosho2, Akiko Sakata3, Satoko Sasaki1, Ayumi Shikama1, Nobutaka Tasaka1, Azusa Akiyama-Abe1, Sari Nakao3, Hiroyuki Ochi3, Takeo Minaguchi1, Toyomi Satoh1
1Faculty of Medicine, Departments of Obstetrics and Gynecology, University of Tsukuba, Tsukuba, Ibaraki, Japan, 2Clinical Trial and Clinical Epidemiology, University of Tsukuba, Tsukuba, Ibaraki, Japan, 3Department of Pathology, Tsukuba Human Tissue Diagnostic Center, University of Tsukuba, Tsukuba, Ibaraki, Japan

Objectives: Our 2007 study of 32 patients with ovarian cancer reported the possible involvement of tissue factor (TF) in the development of venous thromboembolism (VTE) before treatment, especially in clear cell carcinoma
Conclusions: The 2007 cohort was small, preventing strong evidence that the development of VTE in epithelial ovarian cancer may involve TF expression. Multivariate analysis identified TF expression and pretreatment dimerized plasmin fragment D level as significant independent risk factors for VTE development. These factors showed particularly strong impacts on advanced-stage disease (P = 0.021).

Conclusions: The 2007 cohort was small, preventing multivariate analysis. This study of a larger cohort yielded stronger evidence that the development of VTE in epithelial ovarian cancer may involve TF expression in cancer tissues.

0068
Prognostic significance of endomyometrial and parametrial infiltration with positive surgical margin in lymph node-negative FIGO stage IB-IIA cervical cancer treated with radical hysterectomy
Tae-Wook Kong, Joo-Hyuk Son, Ji-Heum Paek, Suk-Joon Chang, Hee-Sug Ryu
Gynecologic Cancer Center, Department of Obstetrics and Gynecology, Ajou University School of Medicine, Suwon, Republic of Korea

Objective: The aim of this study was to evaluate clinicopathologic factors possibly influencing extra-pelvic metastasis and survival in patients with lymph node-negative FIGO stage IB-IIA cervical cancer treated with abdominal/laparoscopic/robotic radical hysterectomy (ARH/LRH/RRH) with retroperitoneal lymphadenectomy.

Material and Methods: We retrospectively reviewed clinicopathologic data of 293 patients with FIGO stage IB-IIA cervical cancer treated with RH with retroperitoneal lymphadenectomy between February 2000 and July 2016. We categorized the LRH/RRH groups into LRH-vaginal colpotomy (VC) and LRH/RRH-intracorporeal colpotomy (IC). Several clinicopathologic factors including surgical and colpotomic methods, surgical resection margin, and parametrial/endomyometrial infiltration were selected. Univariate and multivariate Cox proportional hazard regression models were applied to analyze prognostic factors.

Results: The median follow-up time was 58 months (range, 6 to 202 months). In multivariate analysis, LRH/RRH-IC (OR, 4.535; [95% CI, 1.099-18.715]; P = 0.037), endomyometrial infiltration (OR, 7.739; [95% CI, 2.801-60.660]; P = 0.001), and parametrial infiltration with positive surgical margin (OR, 30.132; [95% CI, 2.550-356.060]; P = 0.007) were significantly related to five-year disease-specific survival. Five patients (13.9%) who received LRH/RRH-IC showed distant lymph node and extra-pelvic peritoneal metastasis including omentum, liver surface, and splenic hilum. Three patients (50%) with positive parametrial margin and five patients (25%) with endomyometrial infiltration showed extra-pelvic metastasis including distant lymph node and lung.

Conclusions: The optimization and standardization of LRH/RRH are expected to improve the survival outcome. The status of endomyometrial and parametrical infiltration can help guide physicians with decisions regarding the use of systemic therapy in lymph node-negative FIGO stage IB-IIA cervical cancer patients.

0069
Analysis of clinicopathologic factors predicting disease recurrence in lymph node-negative early stage endometrial cancer patients who underwent comprehensive surgical staging
Tae-Wook Kong, Joo-Hyuk Son, Ji-Heum Paek, Suk-Joon Chang, Hee-Sug Ryu
Gynecologic Cancer Center, Department of Obstetrics and Gynecology, Ajou University School of Medicine, Suwon, Republic of Korea

Objective: The aim of this study was to evaluate clinicopathologic factors affecting disease recurrence in patients with FIGO stage I-II endometrial cancer.

Material and Methods: We retrospectively reviewed clinicopathologic data of 260 FIGO stage I-II endometrial cancer patients who underwent comprehensive surgical staging March 2000 and June 2016. All patients had endometrioid adenocarcinoma. Several clinicopathologic factors including age, CA-125, tumor grade, depth of myometrial invasion, lymphovascular space invasion (LVSI), and cervical stromal invasion...
were selected. Sites of disease recurrence and all possible clinicopathologic factors related to the risk of disease recurrence were evaluated using univariate and multivariate Cox proportional hazard regression. 

**Results:** The median follow-up time was 42 months (range, 3 to 178 months). Five patients (1.9%) showed disease recurrence (one patient, locoregional; 3 patients, distant or lymphatic). In univariate analysis, tumor grade 3 ($p < 0.001$), deep (50% or more of myometrial thickness) myometrial invasion ($p = 0.013$), and positive LVSI ($p = 0.003$) were related to disease free survival (DFS). Multivariate analysis demonstrated that positive LVSI (OR, 22.457; [95% CI, 1.053-478.866]; $p=0.046$) and tumor grade 3 (OR, 61.554; [95% CI, 2.069-1831.546]; $p=0.017$) represented an independent prognostic factors related to disease recurrence.

**Conclusions:** LVSI and tumor grade 3 are significantly related to distant metastasis and shorter disease-free survival in lymph node-negative early stage endometrial cancer patients with endometrioid histology. Therefore, the use of systemic adjuvant therapy should be further investigated in these patients.

0082 

**Role of endocervical curettage in patients with abnormal vaginal bleeding; 1296 cases in 9 years’ experience at Siriraj Hospital, Thailand**

Tripop Lertbunnaphong, Korakot Sirimai

Department of Obstetrics and Gynaecology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

**Introduction:** Abnormal vaginal bleeding is very common in daily gynecological practice, either pre- or postmenopausal women, and is a leading sign and symptom of both benign and malignant pathology. As high incidence of cervical and endometrial cancer, in Thailand, fractional curettage including endocervical curettage (ECC) and endometrial curettage is recommended for diagnosis of cervical malignant histopathology.

**Objective:** To evaluate of ECC in diagnosis of malignant pathology in patients with abnormal vaginal bleeding.

**Methods:** After approval from Siriraj Institutional Review Board (SIRB), the retrospective chart review between January 2008 and June 2016 was performed. The inclusion criteria was all patients aged of 35 or more who had abnormal vaginal bleeding and had fractional curettage. Patients with known gynecologic malignancy, and incomplete data were excluded.

**Results:** A total 1296 charts were included in this study. Only 12 patients (0.9%) had detected as malignancy from endocervical curettage. 8 patients were finally diagnosed as endometrial cancer with cervical metastasis in 5 of these, 3 patients without prior Pap smear result were finally diagnosed as cervical cancer (1 squamous cell carcinoma, 1 adenocarcinoma and 1 serous carcinoma) and one was finally found to be metastatic adenocarcinoma of colon. The incidence of endometrial cancer was 6% (78 patients) and, finally, 61 patients had surgical staging. About one-fourth of patients (24.6%) demonstrated endocervical metastasis. Consistency of histopathology between ECC and cervical metastasis from final complete surgical staging was weak (Kappa statistic = 0.3). The rate of fail to detect carcinoma of ECC was 66.67%.

**Conclusion:** ECC is not valuable to perform as a routine practice in patients with abnormal vaginal bleeding and should be preserved for only in selected patients.

0085 

**Expression of the P16, Ki-67 in cervical intraepithelial neoplasia and relationship between HPV infection**

Yeonah Lee, Sooyoun Song, Jungbo Yang, Kihwan Lee, Heonjong Yoo, Mina Lee, Youngbok Ko, Yewon Jung

Department of Obstetrics and Gynecology, Chungnam National University College of Medicine, Daejeon, Korea

**Method:** We analyzed 185 patients who were diagnosed with CIN or CIS of Cx at Chungnam national university during January 2013 to August 2016. HPV test performed in 104 patients.

**Objective:** The gold standard of distinguish the cervical lesion is pathological diagnosis. The object of this study was to assess the expression of P16, Ki-67 in the cervial lesions and evaluate the relationship between HPV infection and those markers.

**Results:** The expression of P16 and Ki-67 were positively associated with grade of cervical lesions. ($p$ value <0.001) And P16 and Ki-67 expression were positively associated with each other($p$ value <0.05) There was no association between the HPV infection and expression of P16, Ki-67.

**Conclusion:** Immunostaining for P16, Ki-67 is helpful in diagnosis of CIN lesions. But, HPV infection and P16, Ki-67 expression were no association.
0107
Clinical significance of maternal embryonic leucine-zipper kinase (MELK) expression and evaluation of OTS167 (MELK inhibitor) in ovarian cancer
Yuji Ikeda1,2, Sho Sato1,3, Akira Yabuno1, Shuhei Okabe1,3, Satoko Shimoyokkaichi1,3, Akiko Iwasa1,3, Keiichiro Fujitani1,3, Yusuke Nakamura2, Kosei Hasagawa1,3
1Department of Gynecologic Oncology, Saitama Medical University International Medical Center, Saitama, Japan, 2Section of Hematology/Oncology, Department of Medicine, The University of Chicago, IL, USA, 3Gynecologic Oncology Translational Research Unit, Project Research Division, Research Center for Genomic Medicine, Saitama Medical University, Saitama, Japan

Introduction: We aimed to describe the clinical significance of maternal embryonic leucine zipper kinase (MELK) and explore therapeutic efficacy of MELK inhibitor, OTS167, using ovarian cancer cell line as well as patient derived ovarian cancer cells (PDOCC).

Method: mRNA expression of MELK was examined by RT-PCR using 228 samples with epithelial ovarian cancer (EOC). Expression status was compared between tumor locations, normal tissues and tumor, pre- and post-chemotherapy status, and primary and recurrent tumor. Prognostic significances were evaluated by Log-rank test. MELK expressions in 11 ovarian cancer cell lines were examined by western blotting, and half-maximum inhibitory concentration (IC50) values against OTS167 were examined by MTT assay. Cytotoxic effect of OTS167 in 45 PDOCC including 13 derived cells with spheroid formation was evaluated.

Result: mRNA of MELK was highly expressed in cases with advanced stage (P = 0.008). High mRNA expression of MELK was significantly associated with shorter progression free survival (P = 0.001) and overall survival (P = 0.097). Relative mRNA expression of MELK was significantly lower in samples with post-chemotherapy status (P = 0.0055). In vitro analysis using ovarian cancer cell lines, MELK was highly expressed in 9 of 11 cells and expression levels were inversely correlated with IC50 values of OTS167 (R2 = 0.16). In analysis using PDOCC, administration of OTS167 (10 nM) could significantly suppress the cell survival rate (P = 0.029) even after cell spheroid formation (P = 0.002).

Conclusion: MELK was associated with aggressive phenotype and OTS167 has a potential of treatment in ovarian cancer.

0112
A case report: cellular angiofibroma in the retroperitoneal space during pregnancy
Satoko Sasaki, Sari Nakao, Makiko Watanabe, Ayumi Shikama, Nobutaka Tsaka, Manabu Sakurai, Hiroyuki Ochi, Takeo Minaguchi, Toyomi Sato
Faculty of Medicine, University of Tsukuba, Tsukuba, Japan

Background: Cellular angiofibroma (CA) is a rare benign mesenchymal neoplasm that occurs equally in both sexes. In females, CA most frequency arises in the vulvovaginal and occurs most often in the fifth decade of life. CA is characterized by small size and usually well-circumscribed margins. We report a clinically atypical and rare case of CA diagnosed during pregnancy.

Case Description: A 19-year-old woman was diagnosed as having a giant pelvic tumor (13 cm) besides a normal pregnancy. She underwent magnetic resonance imaging (MRI) at 12 weeks’ gestation. The tumor was 16 cm and suspected as aggressive angiomyxoma. At 16 weeks’ gestation, her membranes spontaneously ruptured, so she had the delivery with natural labor. She underwent MRI again after delivery. Although the pelvic tumor with abundant blood flow did not grow, infiltration of the tumor to the levator muscle of the anus was suspected. She received surgical resection. The tumor was solid soft and grew caudally in the retroperitoneal space. Part of its surface was adhered, but no invasion was observed. We could almost completely remove the tumor. The size of tumor was 17 cm. It was histologically diagnosed as cellular angiofibroma. Immunohistochemical staining was positive for ER, PgR, focally for h-caldesmon, CD34, and CD99, and negative for s-100. No HMG2 and RB1 expressions were detected. Based on the above-mentioned results, the case was diagnosed as CA, even though the clinical findings were not typical. The differential diagnosis in this case was aggressive angiomyxoma or angiomyofibroblastoma. Currently, the patient is followed up.

Conclusion: The standard management and treatment have not been established yet. To our knowledge, this is the first reported case of CA during pregnancy. Furthermore, our case was a clinically atypical case of CA. We consider this report important to improve the management of the disease.
0114
The effective of hyperbaric oxygen therapy for late adverse events of radiation therapy in gynecological cancer
Murakami Fumihiro, Sakamoto Noritaka, Yoh Takasugi, Tasaki Shingo, Toh Mariko, Fukui Satoko, Kinoshita Miyabi, Ohshima Masayo, Tasaki Kazuto, Yokomine Masato, Kuroda Aki, Shimomura Takuya
Department of Obstetrics & Gynecology, St. Mary’s Hospital, Kurume, Fukuoka, Japan

Introduction: Sometimes late adverse events in radiation therapy suffer from difficulties in its treatment, and often experience cases where it is ineffective even with known conservative treatments. We report on the usefulness of hyperbaric oxygen therapy (HBOT) as a conservative treatment for late adverse events of radiation therapy of cervical cancer.

Case presentations: Case 1: A 61-year-old female performed radical surgery for the diagnosis of cervical cancer FIGO stage IB1, and was performed chemoradiotherapy as a postoperative therapy. Follow-up observation was performed in clinically disease-free state, but chronic intestinal obstruction was repeated from nine months after treatment. Although carried out conservative treatment, but gradually general symptoms such as general fatigue, weight loss, diarrhea and so on worsened. After HBOT was used in combination for conservative treatment, improvement of symptoms such as general condition was recognized, oral ingestion became possible and weight gain was confirmed. The patient had an unremarkable course with no clinical or biochemical evidence of disease recurrence to 18 months after treatment. Case 2: An 83-year-old female performed radiation therapy for the diagnosis of cervical cancer FIGO stage IIIB. Because of complications of early rectal cancer and multiple colon diverticulum, HBOT was used in combination. Adverse events were not observed for 12 months after treatment and no recurrence findings were observed.

Conclusion: Although the therapeutic effects of HBOT are common, its treatment indication is still unknown in many cases. HBOT is particularly effective as one of conservative treatments because of the high rate of improvement of ileus, less invasive and no serious side effects than other treatments.

0115
α-mangostin induces apoptosis and enhances cisplatin sensitivity in human cervical cancer stem cell
Shu-Ching Hsieh1, Yi-Hsien Hsieh2, Hui-Ling Chiu1
1School of Medical Laboratory and Biotechnology, Chung Shan Medical University, Taichung, Taiwan, 2Institute of Biochemistry, Microbiology and Immunology, Chung Shan Medical University, Taichung, Taiwan
Cervical cancer is one of the most common female malignancies, and cisplatin-based chemotherapy is routinely utilized in locally advanced cervical cancer patients. α-mangostin is a dietary xanthone that has been shown to have anti-cancer and anti-proliferative properties in various types of human cancer cells. We evaluated the anti-tumor effect of α-mangostin on cervical cancer stem cells (CCSCs), both alone and in combination with cisplatin. In this study, we found that human cervical CSCs cells with α-mangostin exposure resulted in decreased ALDH1 population, CD49f positivity, stemness-related transcription factors (Oct4, Nanog, and Sox2) and induces apoptosis of human CCSCs. Additionally, combination treatment with α-mangostin and cisplatin yielded synergistic inhibitory effects in suppressed ALDH1 population, CD49f positivity, stemness-related transcription factors (Oct4, Nanog, and Sox2), loss of MMPs and induced apoptosis of human cervical CSCs cells. Based on our findings, α-mangostin is a promising flavonoid compound targeting the cisplatin-sensitivity cervical cancer stems cells and regulating their stemness, which will be applied as a potential candidate for the development of a cisplatin- sensitivity cervical CSCs agent and combination therapy of human cervical CSCs.

0128
The distribution and incidence of lymphoceles following lymphadenectomy in patients with gynecologic cancer
Soo Youn Song, Ye Won Jung, Jung Bo Yang, Young Bok Ko, Ki Hun Lee, Heon Jong Yoo
Chungnam National University Hospital, Daejeon, Republic of Korea

Objectives: To identify the distribution and incidence of lymphoceles following lymphadenectomy in patients undergoing the pelvic lymphadenectomy or pelvic and paraaortic lymphadenectomy for gynecologic cancer.

Methods: A total of 86 patients with endometrial, ovarian or cervical cancer underwent pelvic or combined pelvic and paraaortic lymphadenectomy as a primary surgical treatment at single institution from March 2013 to October 2015 and followed up with computed
tomography or magnetic resonance imaging. We retrospectively examined the distribution and incidence of lymphocele after lymphadenectomy.

**Results:** Four to 8 weeks after operation, 27 cases of lymphocele (33.3%) were detected. The incidence of lymphocele after pelvic and paraaortic lymphadenectomy was higher than that after pelvic lymphadenectomy (81.5% and 18.5%, respectively, \(p < 0.001\)). The differences of distribution of lymphocyte between pelvic and paraaortic were revealed (75.6% vs 24.4%). We found a statistically significant difference in the incidence of lymphocele between right and left sides (\(p < 0.012\)). The incidence of lymphocele of left side was higher than that of right side after pelvic lymphadenectomy (30% vs 70%, respectively, \(p = 0.038\)), however, the incidence of lymphocele between right and left sides were not significantly different after paraaortic lymphadenectomy (32.3% vs 67.7%, \(p = 0.308\)).

**Conclusions:** The locations where lymphocele was occurred were different after lymphadenectomy for gynecologic malignancy. The incidence of lymphocele in pelvic area is higher than that in paraaortic area after lymphadenectomy for gynecologic cancer. The incidence of left side lymphocele is higher than that of right side lymphocele in pelvic area.

0129

**Primary ewing sarcoma family of tumors arising in the ovary: a case report**

Yi-Ping Li, Ko-Ping Chang, Wen-Fang Cheng
National Taiwan University Hospital, Taipei, Taiwan

**Background:** Ewing sarcoma (EWS) and peripheral primitive neuroectodermal tumor (PNET) comprises the Ewing sarcoma family of tumors (EFT). It is the second most common bone malignancy in children. However, EFT primarily arising in the ovary is extremely rare.

Case: We reported a 22-year-old nulliparous woman of primary ovarian EFT with initial presentation of 3 cm teratoma-like ovarian tumor, which rapidly progressed to a 15 cm tumor with liver metastasis in 3 months. She received suboptimal debulking surgery and salvage chemotherapy with vincristine, doxorubicin, cyclophosphamide (VDC) alternated with ifosfamide and etoposide (IE).

**Conclusion:** Primary ovarian EFT was extremely rare. Accurate diagnosis could be made by the combination of immunohistochemical and molecular cytogenetic studies. There was no consensus of treatment and it had a highly aggressive behavior and a poor outcome for metastatic disease.

0134

**Metastasis to the iliopsoas muscle from uterine carcinosarcoma: a case report**

Yumi Ishidera, Kago Katayama, Go Hirata, Noriko Ando, Hiroshi Yoshida, Hiroyuki Shigeta
Yokohama Municipal Citizen’s Hospital, Yokohama-shi, Kanagawa-ken, Japan

Metastasis of the malignant tumor to the iliopsoas muscle is uncommon. When we looked at the gynecologic cancers, some cases of cervical cancer have been reported, however, only one case of endometrial cancer has been reported to have metastasis to the iliopsoas muscle. Here we report a case of endometrial cancer (carcinosarcoma) which showed metastasis to the iliopsoas muscle.

A 68-year-old woman (gravida 2, para 0), suspected to be endometrial cancer stage IB (well-differentiated endometrioid adenocarcinoma), was operated with retroperitoneal endoscopic paraaortic lymphadenectomy, laparoscopic modified radical hysterectomy, bilateral salpingo-oophorectomy and pelvic lymphadenectomy. By pathological examination, she was diagnosed to be uterine carcinosarcoma (stage IIIC1, pT1bN1M0). Metastasis to right-pelvic lymphnode was found and cytology of ascites revealed to be negative. Five cycles of chemotherapy with paclitaxel + carboplatin were performed after surgery. Ten months after the end of chemotherapy, serum CA125 level was shown to be elevated. CT and PET-CT revealed left hydronephrosis and metastatic tumor of left iliopsoas muscle 3 cm in size. Metastasis to the left gluteus maximus muscle was also suspected by MRI. Currently, she was placed the stent in the left ureter and resumed chemotherapy.

0136

**Knockdown of SIM2 enhances radio-resistance and tumor growth by inducing HIF1A in cervical squamous cell carcinoma**

Kanako Nakamura, Masayuki Komatsu, Mumiko Chiwaki, Yusuke Kobayashi, Kouji Banno, Maito Iijima, Takashi Takeda, Eiichiro Tominaga, Hiroki Sasaki, Mamoru Tanaka, Daisuke Aoki

1Keio University School of Medicine, Shinanomachi, Shinjuku-ku/Tokyo, Japan, 2National Cancer Center Research Institute, Tukiji, Chuo-ku/Tokyo, Japan

**Objectives:** Development of molecular diagnostics for predicting therapeutic effect is an urgent issue for cervical cancer patients who receive radiotherapy. We recently demonstrated single-minded family bHLH transcription factor 2 (SIM2) is a biomarker to predict chemoradio-sensitivity in esophageal squamous cell
carcinoma (ESCC). The aim of this study was to investigate the function of SIM2 and its clinical usability as a biomarker for cervical squamous cell carcinoma (CvSCC) as well as ESCC.

**Methodology:** SIM2 gene expression and overall survival were analyzed using TCGA database. In 5 CvSCC cell lines (SKG-I, SKG-IIIa, BOKU, HCS-2, and CaSki), biological markers which have been reported as radio-resistance markers in CvSCC were assessed by RT-PCR after siRNA knockdown of SIM2. Expression of HIF1A and its target genes were also assessed by quantitative RT-PCR and HIF-1α was evaluated by western blotting under normoxic and hypoxic condition. Moreover, we established SIM2-knockdown SKG-IIIa cell lines and SIM2-overexpressed SKG-I cell line. Cell growth, H2O2 sensitivity and γ-ray sensitivity were assessed under 3D culture in SIM2-knockdown and -overexpressed cell lines. Tumor progression was also evaluated and immunohistochemistry for HIF-1α and CD31 was performed in xenografts.

**Results:** In the database analysis, low SIM2 expression was significantly correlated with poor survival in 248 CvSCC patients (p = 0.0142). SIM2-knockdown increased HIF1A, VEGFA, PDK1 mRNA expression and increased HIF-1α protein level especially under hypoxic condition. SIM2-knockdown significantly increased cell growth, decreased H2O2 and γ-ray sensitivity under 3D culture. Furthermore, SIM2-knockdown increased HIF-1α expression, leading to the enhanced angiogenesis, and promoted tumor growth in a mouse model. On the contrary, SIM2-overexpression suppressed cell growth and enhanced H2O2 sensitivity. Tumor progression was also suppressed in SIM2-overexpressed xenografts.

**Conclusion:** SIM2 knockdown enhanced radio-resistance and promoted tumor growth via HIF-1α induction in CvSCC. Our results showed that SIM2 can be established as a predictive marker for radio-resistant CvSCC patients.

**0141**

**Metastasis to the mammary gland from uterine leiomyosarcoma: a case report**

Michihisa Shiro, Ayaha Matsushita, Naoyuki Iwahashi, Shigetaka Yagi, Yasushi Mabuchi, Saewako Minami, Kazuhiro Ino

Department of Obstetrics and Gynecology, Wakayama Medical University, Wakayama, Japan

**Introduction:** Metastasis in the mammary gland from extramammary malignancies accounts for 0.3–2.7%. Uterine leiomyosarcoma metastasizing to the breast is extremely rare. We report a case of metastasis to the left mammary gland from uterine leiomyosarcoma.

**Case:** 63 year-old woman, gravida-3 para-2, presented to a breast surgeon in our hospital because she felt a 3 cm tumor in her left breast. Mammography and ultrasound showed a suspicious benign tumor because of the smooth image, but fine-needle aspiration biopsy demonstrated an invasive ductal carcinoma. She was performed PET/CT scan in order to investigate metastatic lesions of other organs. The image of PET/CT showed possibility of metastases to the liver and lung, and malignant uterine tumor. Gynecologists and breast surgeons performed an operation of trans-abdominal hysterectomy, bilateral salpingo-oophorectomy and left mastectomy. Pathological findings showed uterine leiomyosarcoma metastasis to the left mammary gland. After operation, she was given chemotherapy with gemcitabine-docetaxel, but metastatic tumors of the lung and liver were revealed. She was performed a partial resection of the lung and partial resection of liver. After the operation of 6 months later, recurrent tumors on the right sciatic nerve was revealed by PET/CT. She selected a heavy particle radiotherapy in another hospital. After 4 months later, multiple metastatic tumors to the lung, liver and pelvic organs were revealed. She was given chemotherapy with eribulin. After five course chemotherapy, carcinomatous ascites was uncontrolled. Two years and 4 months after the first operation, she changed hospital nearby home in order to receive best supportive care.

**Conclusion:** Cases of metastasis to the mammary gland from uterine leiomyosarcoma are extremely rare. The image of metastatic tumor of mammary gland by mammography and ultrasound often looks like a benign tumor. It is difficult to diagnose the original malignancies of metastatic tumors in mammary gland by fine needle aspiration.

**0145**

**Impact of time interval between radical hysterectomy with pelvic node dissection and initial adjuvant therapy on oncological outcomes of early stage cervical cancer**

Jitti Hanprasertpong, Ingporn Jäms, Alan Geater, Kittiun Leetanaporn, Thanaparn Peerawong

Prince of Songkla, Hatyai, Thailand

**Introduction:** Up to now, there have been no reliable scientific studies examining whether delaying adjuvant therapy after radical hysterectomy with pelvic node dissection (RHND) is associated with poor oncological outcomes of early stage cervical cancer. Neither has the
optimal time from radical hysterectomy to initiating adjuvant therapy been examined.

**Objective:** To determine the impact of time interval (TI) from RHND to adjuvant therapy on oncological outcomes in cervical cancer.

**Methods:** The study included 110 stage IA2-IB1 cervical cancer patients who underwent RHND and adjuvant therapy. The patients were divided into 2 groups based on the cut-off points of TI of 4 and 6 weeks, respectively. The associations of TI and clinicopathologic factors with oncological outcomes were evaluated using Cox proportional-hazards regression.

**Results:** The median TI was 4.5 weeks. There were no statistical differences in 5-year recurrence-free survival (RFS) (89.2% vs 81.0%, and 83.2% vs 100.0%) or 5-year overall survival (OS) rates (90.9% vs 97.2%, and 93.2% vs 100.0%) between patients according to TI (≤4 vs >4, and ≤6 vs >6 weeks, respectively). Histology (P < 0.001), deep stromal invasion (P = 0.016) and parametrial involvement (PI) (P = 0.001) were identified as independent prognostic factors for RFS, while prognostic significance of TI for the cut-off point of TI of 4 weeks was evident only among patients with squamous cell carcinoma (HR = 19.2; 95% CI = 1.7–221.0; P = 0.018). Univariate analysis showed that only tumor size (P = 0.023), and PI (P = 0.003) were significantly associated with OS.

**Conclusion:** Delay in administering adjuvant therapy more than 4 weeks after RHND in early stage squamous cell cervical cancer results in poorer RFS.

0147

The clinical and economic impact of school-based nine-valent human papillomavirus vaccine on female in Malaysia

Yin-Ling Woo1, Tun-Ying Hsu2, Andrew Pavelyev3, Amit Kulkarni4

1Department of Obstetrics and Gynaecology, UM Medical Centre, Kuala Lumpur, Malaysia, 2Medical Affairs, MSD Pharma (Singapore) Pte. Ltd, Singapore, 3HCL America Inc, Sunnyvale, USA, 4Center for Observational and Real World Evidence, Merck & Co., Inc., Kenilworth, USA

**Introduction:** Cervical cancer (CC) is the third common cancer for females in Malaysia. Human papillomavirus (HPV) has been shown to be associate. With low cytology screening rate(22%) in Malaysia, prophylactic HPV vaccination needs to be considered for adolescents.

**Objectives:** To examine the epidemiological and economic impact of a nine-valent HPV(6/11/16/18/31/33/45/52/58) vaccine program for adolescent females in Malaysia.

**Methodology:** Using Malaysian data, a previously validated HPV dynamic transmission model was adapted for a school-based vaccination strategy: nine-valent HPV vaccination (three-dose) for 13-year-old girls with 90% coverage. This strategy was compared against bivalent (16/18) and quadravalent (6/11/16/18) HPV vaccination (with ongoing cytology screening), for clinical (incidence of CC, CC mortality, cervical intraepithelial neoplasia (CIN) and genital warts) and economic outcomes. Time horizon was set at 100 years and a discount rate was 3%.

**Results:** Compared to the bivalent and quadravalent HPV vaccination, a nine-valent vaccination program for 13-year-old females in Malaysia would result in an additional reduction of 16/18 related CIN 1 by 50.6%, CIN 2/3 by 48.4%, CC by 35.4%, and CC mortality by 30.3%, due to incremental protection against the additional serotypes of HPV in the nine-valent vaccine. Furthermore, compared to bivalent HPV vaccination, HPV 6/11 related CIN1 would be reduced by 73.3%, and genital warts would be reduced by 78.6% (female) and 65.5% (male). Over 100 years, disease management cost would be reduced by 41.9% (vs bivalent) and 51.1% (vs quadravalent). The incremental cost-effectiveness ratio (ICER) per quality-adjusted life-year gained was negative (cost-saving) compared to bivalent vaccination and RM$3616 compared to quadravalent vaccination. The cost-effectiveness threshold for Malaysia is RM $111996 as three times of GDP per capita in 2015.

**Conclusion:** The nine-valent HPV vaccination for 13-year-old females is very cost-effective regardless the comparators and provides additional reduction in CC, CC deaths, and other HPV-related diseases in Malaysia.

0148

Late recurrence of early stage cervical cancer more than 3 years after radical hysterectomy with pelvic node dissection

Jitti Hanprasertpong, Ingporn Jiamset

Prince of Songkla University, Hatyai, Thailand

**Introduction:** The survival rates of early stage cervical cancer patients after radical hysterectomy with pelvic node dissection (RHND) are good. Nevertheless, 10-18% of patients had disease recurrence, the majority of recurrences develop in the first 2-3 years after treatment, in some patients, recurs after 3 years later. In the past, there have been a few studies of late recurrence of cervical cancer. The incidence and outcomes of late recurrence, which would justify long-term follow-up, is not well addressed and no
independent risk factors specific for late recurrence have been examined. **Objective:** The aim of this study was to evaluate the clinicopathologic characteristics and outcomes of patients who developed late recurrence (>3 years) of early stage cervical cancer after RHND compared with those of patients who developed early recurrence (≤3 years). We also aimed to identify the risk factors of late recurrence. **Methods:** Between 1999 and 2015, records of 515 early stage cervical cancer patients were reviewed. Fifty-three patients developed recurrence, 35 early and 18 late. The clinicopathologic characteristics and outcomes were compared between these 2 groups. Of the 515 patients, 307 patients who remained tumor-free for at least 3 years after RHND were reviewed. **Results:** No significant differences were found in clinicopathologic characteristics and clinical outcomes between the 2 groups with regard to age, stage, histology, tumor size, lymphovascular space invasion, stromal invasion, parametrial involvement, node status, vaginal margin, preoperative blood testing, adjuvant therapy, symptom status at recurrence, site of recurrence or survival after recurrence. Late recurrence was detected in 18 of the 307 patients (5.9%). Only node status and deep stromal invasion (DSI) were independently associated with late recurrence. **Conclusion:** Lymph node metastasis and DSI are risk factors for late recurrence. Careful long-term follow-up is needed, particularly in cases with lymph node metastasis and/or DSI.

**0150**

**A case of Meigs’ syndrome with concomitant massive ascites and a huge pelvic mass**

Mai Orita, Mariko Jitsumori, Mariko Hashimura, Anna Umeda, Satoshi Nakagawa, Ayako Hosoi, Kumiko Kazumi, Kazuya Miyanishi, Toshiya Yamamoto

Sakai City Medical Center, Sakai, Osaka, Japan

A 62-year-old, nulligravida woman visited a local hospital owing to dyspnea. She had massive ascites, because of which abdominocentesis was performed; 11 L of ascites was drained. Computed tomography (CT) revealed a huge pelvic mass; therefore, she was referred to our department. Her CA125 and D-dimer levels were elevated (583 U/mL and 29 μg/mL, respectively). Enhanced CT revealed bilateral pleural effusion, massive ascites, and a solid left ovarian tumor, 18 cm in diameter; ovarian cancer was highly suspected. Neoadjuvant chemotherapy was planned and cytological examination was performed. Cytology of the both pleural effusion and ascites yielded negative results; therefore, laparotomy was performed. Fibroma was pathologically diagnosed during surgery. Pleural effusion and ascites disappeared soon after surgery and did not relapse. A final pathological diagnosis of fibroma and Meigs’ syndrome was confirmed.

**0151**

**A case of pseudo-Meigs’ syndrome caused by primary ovarian cancer**

Mariko Hashimura, Mariko Jitsumori, Anna Umeda, Satoshi Nakagawa, Ayako Hosoi, Kumiko Kazumi, Kazuya Miyanishi, Toshiya Yamamoto

Sakai City Medical Center, Sakai, Osaka, Japan

We report a rare case of pseudo-Meigs’ syndrome caused by primary ovarian cancer. A 51-year-old woman with a history of hysterectomy due to uterine fibroma presented at a local clinic because of cough and dyspnea. Computed tomography (CT) revealed massive pleural effusion in the right chest. She was subsequently referred to the Department of Respiratory Medicine in our hospital. Cytology of the pleural effusion yielded negative results. She was referred to the Department of Obstetrics and Gynecology because CT revealed a huge pelvic mass (20 cm in diameter) and ascites. She was diagnosed with ovarian cancer and laparotomy was subsequently performed. Cytology of the ascites yielded positive results and pathological diagnosis of a pelvic mass was endometrioid adenocarcinoma. The clinical diagnosis was stage IIB ovarian cancer. Pleural effusion disappeared soon after surgery and did not relapse. We concluded that this case was of pseud-Meigs’ syndrome caused by primary ovarian cancer.

**0152**

**A case of stage IB ovarian cancer which para-aortic lymphadenopathy was highly suspected preoperatively with positron emission tomography-computed tomography**

Mariko Jitsumori, Mariko Hashimura, Anna Umeda, Satoshi Nakagawa, Ayako Hosoi, Kumiko Kazumi, Kazuya Miyanishi, Toshiya Yamamoto

Sakai City Medical Center, Sakai, Osaka, Japan

A 38-year-old woman was referred to our hospital from a local clinic because of bilateral ovarian swelling and elevated serum CA125 levels (1213 U/mL). Magnetic resonance imaging revealed bilateral ovarian tumors (right: 4.8 × 6.8 cm; left: 4.0 × 6.3 cm). Positron emission tomography-computed tomography (PET-CT) revealed high accumulation in the para-aortic lymph nodes.
Endometrial sarcoma: case report of a rare endometrial malignancy
Panagiotis Sarhanis, Arain Sumaira, Christos Spyroulis
Northwick Park Hospital, Harrow, UK

Introduction: Endometrial sarcoma is a very rare malignancy of the endometrial cavity. It accounts for 0.2% of the total uterine malignancies. But, despite being very rare disease, it has high incidence of recurrence, which can occur even 20 years after the initial presentation of the disease. We present a case of endometrial sarcoma and we highlight the importance of MDT discussion for the management of this disease.

Case presentation: A 56 year old woman referred by her GP to the RAC of NPH due to a 3 day episode of postmenopausal bleeding. She was seen on 15th of November in the RAC of NPH by the Oncology lead. Prior to the clinic appointment she had an ultrasound scan, the endometrial thickness of which was 26 mm which shown a large polypoid lesion at the lower uterine wall and a mass in the posterior uterine wall which was characteristic of a fibroid. A pipelle biopsy was attempted in the clinic, but without success. She was booked for a diagnostic hysteroscopy with endometrial biopsy. On 28th of November, she had a hysteroscopy which shown a large polypoid lesion at the lower uterine wall and a large fibroid in the endometrium. A resectoscope inserted to remove the fibroid, but without success due to the large polyp at the lower wall which obstructed the passage. We removed with a tissue forceps multiple pieces of the polyp and sent them for histology. Histology confirmed the presence of low grade endometrial sarcoma. She had an MRI of the pelvis on 29th of November which didn’t show metastasis to adjacent structure. We discussed the case in MDT and we decided for a TAH + BSO in a tertiary unit (Hammersmith hospital)

Discussion: The treatment of choice is surgery and due to high recurrence rate, the follow-up needs to be thorough and extend to the 5 year period (once/year)

Anti-cancer effect of ulipristal acetate in uterine leiomyosarcoma
Jeong-Won Lee1, Ji Eun Hong1, Ji-Hye Kim1, Chel Hun Choi1, Byoung-Gie Kim1, Duk-Soo Bae1, Woo Young Kim2
1Department of Obstetrics and Gynecology, Samsung Medical Center, Sungkyunkwan University, Seoul, Republic of Korea, 2Department of Obstetrics and Gynecology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea

Objectives: Although uterine leiomyosarcoma (LMS) is an aggressive tumor associated with a high risk of recurrence, current radiotherapy and chemotherapy is limited role in the treatment. Therefore, the introduction of a new therapy for LMS of the uterus is urgently needed. Ulipristal acetate (UPA, selective progesterone receptor modulator) is used for pre-operative treatment of moderate to severe symptoms of uterine fibroids because UPA-treated fibroids shown about inhibition of proliferation and induction of apoptosis and remodeling of the extracellular matrix. However, anti-cancer effect of LMS has not yet been reported. This study was designed to investigate preclinical efficacy of UPA as anti-cancer agent in LMS cells.

Methods: We treated UPA in human LMS cells including SK-UT-1 and MESSA to evaluate the effect on cell proliferation using MTT assay. To check the apoptosis according to UPA treatment, we performed ELISA in LMS cells. In addition, in vivo therapy experiments of UPA were done using xenografts using SK-UT-1 and MESSA in nude mice. SK-UT-1 or MESSA cells were injected s.c, into mice (n = 10 per group) and these were randomly assigned to two groups: PBS (control), oral UPA 2 mg/kg once daily.

Result: UPA significantly inhibited the cell survival and increased the apoptosis in SK-UT-1 and MESSA cells. In in vivo experiments, UPA significantly decreased the tumor growth in both mice with SK-UT-1 and MESSA cells compared with control (both p < 0.001). Moreover, the immunohistochemical analysis using in vivo tumor samples showed that UPA treated group decreased Ki-67 expression and increased apoptosis revealed by TUNEL assay compared with control.

Conclusions: We found that UPA have anti-cancer-effects in LMS cells via the action to cell proliferation
Objective: Current standard therapy for cervical cancer is concurrent chemoradiation (CCRT) with weekly cisplatin for the patients with locally advanced disease. However, CCRT with cisplatin still have serious side effects in these patients. The purpose of this study was to determine the capacity of MK-1775, a potent wee1 inhibitor, to modulate radiosensitivity in cervical cancer cell models including in vitro, cell line xenograft and patient-derived tumor xenografts (PDXs).

Methods: We checked the expression of wee1, γH2AX, p-cdc2 Y15 and p-HH3, and cell proliferation after MK-1775 administration in cervical cancer cell lines. Clonogenic survival assay was used to test the radiosensitivity of MK-1775 in cell lines. Moreover, we performed the in vivo therapy experiments for the combination of irradiation and MK-1775 in cell line xenograft and PDX subcutaneous models. Irradiation and MK-1775 treatment were started when the average tumor volume reached 100 mm³. X-rays (2 Gy x 3 days) were delivered locally to the tumor-bearing legs of anesthetized mice. MK-1775 (60 mg/kg) was administered orally 1 h before irradiation for 3 days.

Results: In clonogenic survival assay, MK-1775 and irradiation significantly decreased cell survival compared with radiation alone in both cells. MK-1775 decreased the phosphorylation of cdc2Y15, co-treatment caused DNA damage with increased γH2AX expression and increased the expression of p-HH3 compare with radiation alone. Therefore, we found that MK-1775 abrogates the radiation-induced G2 arrest. In cell-line xenograft with SiHa cells, co-treatment significantly decreased the tumor volume compare with control, MK-1775 alone or radiation alone group. Moreover, we confirmed same effects in two PDX models for cervical squamous carcinomas.

Conclusion: These results indicate that human cervical cancers are significantly radiosensitized by the potent and selective wee1 kinase inhibitor, MK-1775, in both the in vitro and in vivo models including PDX.

Introduction: Uterine cervical cancer is the most common primary gynecologic malignant disease in Japan. Conventional cervical testing has been shown to be extremely effective in reducing cervical cancer incidence and mortality. However, early cervical neoplasms and invasive cancers have been increasing gradually in young women. The population with cervical cancer screening experience is quite low compared to other developed countries.

Objectives: We studied the status of uterine cervical cancer screening in annual company checkups and clarified problems.

Methodology: Questionnaires were sent to occupational health physicians through Sansuiken (Alumni association of UOEH). Overall, 127 valid responses showed that cervical cancer screening has been conducted in 100 companies (79%; including health insurance society). We obtained detailed information from 50 among 100 responses.

Results: Mandatory cervical Pap tests are conducted at just 6 companies (12%) and annual Pap tests at 35 of 48 (73%). Only 18 of 49 companies (37%) start Pap tests for employees 20 years old, and Pap test is started at 30 years at 9 of 49. Of the 31,294 of 86,695 women (36%) screened for cervical cancer, abnormal Pap smear results were found in 3.0%. The cervical cancer screening rate have been increasing compared to our previous studies (17% in 2004, 23% in 2008). Colposcopy and punch biopsy were conducted in
70% (61 of 87 women) of those with abnormal results. Twelve of 26 companies had no information about detailed examination results.

Conclusion: Uterine cervical cancer screening by companies is very useful because of growth in the female working population. Physicians at companies should therefore survey female health care by including uterine cervical cancer screening. It is important to notice an information that cervical cancer incidence and mortalities are increasing among young women in Japan.

0160

Current practices of cytoreductive surgery and intraoperative hyperthermic intraperitoneal chemotherapy in treatment of peritoneal surface malignancies: an international survey of oncologic surgeons

Han-Na Lee, Young-Bok Ko, You-Jin Kim, Yong-Joong Song, Myong-Cheol Lim, Sang-Yoon Park, Heon-Jong Yoo
Chungnam National University Hospital, Daejeon, Republic of Korea

Background: The goal of the current study was to investigate current clinical practice of CRS using HIPEC among tumor surgeons and to respect uncompromising opinions.

Method: An online questionnaire was conducted to the corresponding authors who wrote the international paper on CRS with HIPEC and to the member of Korean Society of Peritoneal Surface Malignancies. The questionnaire include 20 general multiple choice questions to access opinions about the analysis of people who join this survey.

Result: The response rate was 16% (34/217). The results of our study demonstrate that all of respondents replied the invasion to numerous mesenteries is the most crucial factor that interrupts the right treatment of peritoneal surface malignancies. Most surgeons used a sugarbaker’s staging system for measuring the extent of peritoneal invasion during operation. Others (21%) used their own peritoneal carcinomatous index. Sixty five percent of respondents described performing CRS with HIPEC with a closed system. More than half of surgeon demonstrated the infusion temperature of infusing liquid while performing HIPEC is 42 °C (53%). Forty eight percent of respondents (13/27) used 90 minutes of HIPEC perfusion time and 30% surgeons (8/27) used 60 minutes. Nineteen percent of respondents (5/27) described 30 minutes of perfusion time.

Conclusion: In this study, we found that the invasion to numerous mesenteries is the most crucial factor that interrupts the right treatment of peritoneal surface malignancies. As the surgical experience increases, the factors that interrupt the right treatment of peritoneal surface malignancies might be decreased. These results should be further verified by future studies based on a large prospective cohort.

0161

Prognostic impact of the time interval from primary surgery to start of chemotherapy in advanced ovarian cancer

Mayu Shiomi, Kiyoshi Yoshino, Mamoru Kakuda, Aiko Kakiyano, Michiko Kodama, Eiji Kobayashi, Kae Hashimoto, Seiji Mahuchi, Yutaka Ueda, Takaji Tomimatsu, Kenjiro Sawada, Tadashi Kimura
Osaka University Hospital, Osaka, Japan

Objective: Delay of postoperative chemotherapy may cause poor prognosis in ovarian cancer. The aim of the present study was to evaluate whether time interval from surgery to start of chemotherapy (TTC) has an impact on clinical outcome.

Methods: We retrospectively studied age, neoadjuvant chemotherapy, residual disease, histology type, TTC from 65 patients with International Federation of Gynecology and Obstetrics stage III or IV ovarian cancer who were treated between January 1, 2011 and May 31, 2015. PFS and OS were analyzed with the Kaplan–Meier method and log-rank test in univariate analyses. In multivariate analyses, cox regression analysis was used to evaluate the effect of prognostic factors expressed as hazard ratios (HR).

Results: The median follow-up time was 32 months. The median PFS was 15 months. The 3-years OS was 72%. The median TTC (range) was 29 (11-89) days. The main reason that TTC was more than 30 days was bowel obstruction. Chemotherapy completion rate was 82.5%. In both univariate and multivariate analyses, TTC ( 30 or 30 ≤) was not a significant prognostic factor. In multivariate analyses, only histology type (non-

Conclusion: TTC did not have prognostic impact on patients with advanced ovarian cancer in our cases. However, some previous studies reports that the prolongation of TTC is the poor prognostic factor. It is necessary to collect and analyze cases.
Coexistence of adenocarcinoma of cervix and bilateral mucinous cyst adenoma of ovary in a young lady: a rare case report
Nazneen Ahmed, Shoyela Shahnaz, Asifa Ali, Rajat Biswas
Chittagong General Hospital, Chittagong, Bangladesh

Introduction: Synchronous tumours of the ovary and cervix are rarely reported especially tumours of different histopathology. Synchronous multiple primary tumours are comprises only about 0.63% of all genital malignancies. We report a very rare case of coexistent cervical adenocarcinoma with bilateral mucinous cyst adenoma in a young virgin lady.

Case report: A 20 years old young unmarried lady presented to our hospital with lump in lower abdomen associated with severe pain. She also complaint of weight loss and anorexia.

On physical examination she was found anaemic, abdomen was distended. A tense, tender, immobile and irregular lump about 20x25 cm in size was found occupying the lower abdomen. Speculum and digital vaginal examination was not performed. Rectovaginal examination revealed a 3-4 cm firm growth on cervical region.

On investigation tuberculin test was negative. CA-125 was 101 U/ml, CEA 11.5 mg/dl. USG suggests a huge multicystic mass in pelvis extending up to upper abdomen. EUA done and biopsy was taken from cervix. Histopathology result showed chronic cervicitis. HPV DNA test was negative. Our preoperative diagnosis was malignant ovarian tumour.

Exploratory laparotomy was performed. We found both ovaries about 20x18 cm in size, multicystic, surface was studded with engorged blood vessels. No healthy tissue was found. Uterus was normal in size but cervix was replaced by a growth which anteriorly adhered to bladder and posteriorly adhered to sigmoid colon. After proper counseling the parents subtotal hysterectomy with bilateral sulphingoophorectomy with partial omentectomy was done. Malignant cells were identified in peritoneal fluid cytology. Histopathology report revealed mucinous cyst adenoma of ovary and adenocarcinoma of cervix. She was advised for chemotherapy of 6 cycles with paclitaxel and carboplatin.

Conclusion: Our case highlights tumours of different histopathology in a young lady deserve further studies to enhance our knowledge to this rare though potential occurrence.

A rare case of rapidly progressive metastatic vulvovaginal choriocarcinoma following ectopic pregnancy
Mishu Mangla1, Deepak Singla2
1Himalyan Institute of Medical Sciences, Dehradun, India, 2AIIMS, Rishikesh, India

Choriocarcinoma rarely develops following an ectopic pregnancy, although if it does, it is very aggressive and is associated with extensive metastasis. We report a case of 30 years old multipara, admitted with complaints of vulvovaginal mass and shortness of breath 45 days after salpingectomy for ruptured ectopic pregnancy. Beta HCG was 111 314 IU/ml. She was diagnosed as a case of metastatic choriocarcinoma, FIGO stage 4b with WHO prognostic score of 11. She received 5 cycles of chemotherapy for treatment and 2 cycles further to prevent relapse. So, routine beta HCG monitoring even after surgical management of ectopic pregnancy and immunohistochemistry along with histopathology should be done for early diagnosis of such cases so that treatment could be instituted timely thus improving prognosis.

Questionnaire survey on the patient’s impression of laparoscopic surgery for gynecologic cancer
Go Hirata, Katayama Kayo, Yumi Ishidera, Hiroyuki Shigeta, Hiroshi Yoshida
Gynecological Endoscopy and Surgery Center, Yokohama city, Kanagawa Prefecture, Japan

Study objectives: To investigate the patient’s impression of laparoscopic surgery for gynecologic cancer.

Methods: We sent a multiple-choice questionnaire form by mail to the patients who underwent either open or laparoscopic surgery for gynecologic cancer.

Results: This study included 115 patients. The most important issue for surgery was ‘curability’ (n = 51, 44%) when only single choice was allowed. When multiple answers were allowed, the important issue for surgery were varied as follows: ‘curability’ (n = 102, 89%), ‘safety’ (n = 82, 71%), ‘fewer postoperative complication’ (n = 70, 67%), ‘pain’ (n = 56, 49%), ‘short hospitalization’ (n = 41, 36%), ‘early recovery’ (n = 40, 35%), ‘cost’ (n = 32, 28%) and ‘less post-operative scarring’ (n = 30, 26%). Laparoscopic surgery was regarded to be ‘dangerous’ (n = 36, 31%), rather than ‘safe’ (n = 11, 10%). The reasons for choosing laparoscopic surgery were as follows: recommendation of doctors in our hospital (n = 57, 50%), recommendation...
of doctors in other institutions (n = 19, 17%), website (n = 6, 5%).

Conclusion: Concerning about the laparoscopic surgery of gynecologic cancer, the most important issue was curability. Laparoscopic surgery was regarded to be dangerous for about one third of the patients.

0174
A rare case of recurrent ovarian adenocarcinoma metastatic to the pericardium
Shiely Mae Llaguno-Mundiz, Constancia Wilhelmina Torres
San Pedro Hospital, Davao City, The Philippines

Introduction: Ovarian carcinoma is a rare cause of pericardial effusion and has been estimated that only 2.4% of patients with epithelial ovarian carcinoma will develop pericardial involvement. We describe a patient with recurrent ovarian adenocarcinoma who eventually developed malignant pericardial effusion.

Objectives: The objectives of this case are to describe the natural history and management of metastatic ovarian adenocarcinoma, to review the pathophysiological mechanisms of cardiac metastasis and to discuss clinical presentation and management of malignant pericardial effusion.

Methodology: R.M., a 51-year-old G2P2, was diagnosed with stage IIIA, grade 3 endometrioid adenocarcinoma in 2009 and was treated with adjuvant chemotherapy carboplatin-paclitaxel. In 2013 and 2015, adjuvant chemotherapy was given due to recurrence of disease. In 2016, recurrent disease was once again diagnosed. She had chemotherapy resistant to carboplatin-paclitaxel, thus the treatment plan was modified into gemcitabine and bevacizumab. However, the patient had poor compliance due to financial constraints. One month following treatment cessation, the patient presented a three week history of worsening dyspnea, demonstrating massive pericardial effusion on cardiac echo. Due to impending cardiac tamponade, tube pericardiostomy was performed draining 1.5 L of bloody pericardial fluid, followed by resolution of her symptoms. Pericardial biopsy was positive for malignant cells compatible with metastatic adenocarcinoma.

Results: Six weeks later, she presented again with dyspnea, on and off cough and abdominal distention. A cardiac echo demonstrated pleural effusion and trace to minimal pericardial effusion. Chest tube thoracostomy was performed but afforded no relief on patient’s condition. Few hours later, the patient had cardiopulmonary arrest and was pronounced dead.

Conclusions: Pericardial effusion is a rare but ominous complication of ovarian cancer. Relief of symptoms and cancer stabilization are the main goals of treatment. Awareness of different etiologies of pericardial effusion and timely diagnosis are essentials to the appropriate management of the case.

0175
Screening of Lynch syndrome using risk assessment criteria and deficiencies of mismatch repair proteins in patients with ovarian cancer
Takashi Takeda, Kouji Banno, Megumi Yanokura, Yusuke Matoba, Haruko Kunitomi, Masataka Adachi, Yusuke Kobayashi, Akira Hirasawa, Eiichiro Tominaga, Daisuke Aoki
Keio University School of Medicine, Tokyo, Japan

Introduction: Lynch syndrome is a cancer predisposition syndrome caused by germline mutation of DNA mismatch repair (MMR) genes MLH1, MSH2, MSH6 and PMS2. It has been reported that about 0.4% of ovarian cancer patients have germline mutation of MMR genes. Amsterdam II criteria do not include ovarian cancer and revised Bethesda Guidelines are mainly focused on colorectal cancer, therefore these criteria are not useful for screening of Lynch syndrome in patients with ovarian cancer.

Objectives: We analyzed deficiencies of MMR proteins and microsatellite instability (MSI) in patients with ovarian cancer who met the Lynch syndrome risk assessment criteria of the Society of Gynecologic Oncologists (SGO) for screening, with the goal of investigating the frequency of ovarian cancer in Lynch syndrome.

Methodology: The subjects were 130 patients with ovarian cancer who visited our hospital in 2015-2016. After an approval from the ethics committee, written informed consent was obtained. A new self-questionnaire for family history was prepared to identify cases meeting the SGO criteria. MSI, immunohistochemistry and methylation of MMR genes were analyzed using surgical specimens of these patients.

Results: Of the 130 cases, 26 (20.0%) met the SGO criteria for a 5-10% chance of having Lynch syndrome. Three of these 26 cases showed MSI-high and loss of MMR protein: Two cases had loss of MSH2 and MSH6, probably having Lynch syndrome with MSH2 mutation. Another case had loss of MLH1 and PMS2 with methylation of MLH1, indicating sporadic ovarian cancer. These results indicate that risk assessment using SGO criteria may be able to detect Lynch syndrome in 1.5% (2/130) of patients with ovarian...
Conclusion: This diagnosis procedure may be useful for screening of Lynch syndrome in patients with ovarian cancer.

0176
Introduction of laparoscopic hysterectomy for endometrial cancer at a public cancer center
Yuichiro Miyamoto, Aki Hara, Kensuke Tomio, Kazuko Kubota, Koji Horie, Harushige Yokota
Saitama Cancer Center, Saitama, Japan

Purpose: Minimum invasive surgery for malignant tumor in gynecology is still more desirable, and laparoscopic surgery for endometrial cancer became covered by health insurance in Japan from 2014. At our hospital, which is a public regional cancer center, total laparoscopic hysterectomy (TLH) for endometrial cancer has been newly introduced. We report on the first five cases treated with this procedure at our hospital.

Methods: An application was made to the ethical review board at our hospital for the new procedure. All cases were stage 1a endometrial carcinoma Grade1. In each case, TLH and adnexectomy and pelvic lymphadenectomy was performed. The operative duration, total blood loss, days of hospital stay, total number of dissected lymph nodes, severe operative complication and pre-and post-operative pathological examination were investigated.

Results: No serious complications occurred postoperatively. The operative duration tends to be longer, but the blood loss and days of hospital stay tend to be favorable, and dissected lymph nodes are the same compared to open laparotomy method. None of the patients required any further treatment.

Conclusions: Laparoscopic Hysterectomy for endometrial cancer was successfully introduced in our hospital. Since the long term prognosis is not clear, careful case selection and further investigation is necessary. Gynecologic oncologists who are experienced in open surgery require practice using dry box training to learn suturing and ligature techniques to make the transition from open to laparoscopic procedures.

0188
A new flow-cytometer-based cell analysis platform and its application as the ascitic cytology assist system
Takenori Maruta1, Yukihiro Hirata1, Etsuko Ko1, Suguru Odajima1, Yuriko Nishim1, Naoki Yoshikawa1, Akina Tsuda1, Satoru Funak11, Hiromi Komuzaki1, Shigeki Nii11, Shigeki Abe2, Takashi Umezaki3, Isoko Arasaki3, Kazuhiko Ochita1, Aikou Okamoto4
1Department of Obstetrics and Gynecology, The Jikei University School of Medicine, Katsushika Medical Center, Tokyo, Japan, 2Sysmex Corporation, Kobe, Japan, 3Department of Pathology, The Jikei University School of Medicine, Katsushika Medical Center, Tokyo, Japan, 4Department of Obstetrics and Gynecology, The Jikei University School of Medicine, Tokyo, Japan

Objective: This study aimed to assess the utility of a novel flow-cytometer (FCM)-based cell analysis platform, the LC-1000 exfoliative cell analyzer (Sysmex Corporation), for the ascitic cytology assist system through comparisons of measurement results with clinical data. The LC-1000 exfoliative cell analyzer enables the quantification of DNA as well as determination of nuclear and cytoplasm diameter for individual cells, and presents information in the form of a cell proliferation index (CPIx), which is associated with cell proliferation.

Method: This study was conducted after approval from the ethics committee of both the Jikei University Katsushika Medical Center as well as Sysmex Corporation. Informed consent was obtained from the patients who participated in this study. Ascitic samples or peritoneal washings were collected from patients who were treated at department of Obstetrics and Gynecology between November 2016 and March 2017. Liquid-based cytology specimens were prepared from the residual samples of routine cytology. These were then measured using the LC-1000. Measurement results were verified against the obtained clinical information and the system’s clinical performance was evaluated.

Results: Of the 12 cases enrolled by the beginning of January 2017, four cases were cytology negative and one case was cytology positive. The mean value of CPIx in the cytology negative group (n = 4) was 0.10 and that of CPIx in the cytology positive (n = 1) was 4.80. Furthermore, CPIx tended to be higher in the cytology positive group.

Conclusion: We believe that the LC-1000 has the potential to be an effective cell analysis tool that could significantly contribute to clinical research through diagnosis support information.
Aims and objectives: to estimate the VIA positivity rate in our population and see the efficacy of the treatment with cryotherapy during follow up after treatment.

Materials and methods: a retrospective analysis of all VIA test from March 2012 to April 2015 were analyzed to estimate the VIA positivity rate of the screened population. Guidelines for screening were as according to the national guidelines 2010 of Nepal Mobile screening camps were conducted in remote areas and screening was carried out.

Results: A total of 12,444 clients were screened during the study period. More than 98% had been screened for cervical cancer for the first time, complications following cryotherapy was low. The VIA positivity rate was 5.9%. Out of those positives 639 were treated with cryotherapy, 78 with LEEP, 23 rejected any form of treatment, during the follow up at the end of one year 618 were found to be VIA negative, 90 lost to follow up, 9 were found to be positive. Repeat VIA positivity rate at the end of one year during follow up was 1.2%.

Conclusion: Screening for cervical cancer with VIA and treatment with cryotherapy is a feasible and acceptable form of screening in our setup. Organized screening system could be beneficial to save the lives of many women.

Objective: The management of cervical cancer in pregnancy

Method: Case Report

Results: A 37 years old gravida 3 para 2 abortus 0 referred from obstetrician and gynecology with diagnose stage II A of Cervical cancer with gestational age 7-8 weeks. After counseling regarding the maternal and foetal risk, Radical Hysterectomy was performed. The histopathologic finding revealed carcinoma in situ of the cervix uterine and the intrauterine foetus.

Conclusion: The management cervical cancer in pregnancy is determined by gestational age, the stage of disease and patient choice regarding definitive treatment. Radical surgery is the treatment of choice for the early stages of disease.

Keywords: Cervical cancer, Pregnancy, Radical Hysterectomy.
Pelvic Lymphadenectomy (TLmRH + BSO + PLA). However, significantly longer operation time and increased blood loss were noted in obese patients compared to non-obese patients who underwent TLmRH + BSO without lymphadenectomy.

**Conclusions:** It is suggested that longer operation time and increased blood loss are needed for the laparoscopic hysterectomy of obese patients compared to non-obese patients. Although it is sometimes difficult to maintain a field of view in laparoscopic surgery for obese patients, it can be performed safely by the addition of the trocars which hold and tow a uterus and using a device which tows and fixes a bladder and the colon to an abdominal wall.

**0225**

**Differences in correlation of Progression-Free Survival and Overall Survival by clinical variables in epithelial ovarian cancer**

E-Sun Paik, Hyun-Jin Choi, Ju-Young Park, Ji-Hye Kim, Won-Kyo Shin, Hye-Joo Lee, Chel-Hun Choi, Jeong-Won Lee, Byoung-Gie Kim, Duk-Soo Bae

Department of Obstetrics and Gynecology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea

**Objective:** To investigate significance of progression-free survival (PFS) as optimal surrogate endpoint for overall survival (OS), and the differences in correlation of PFS and OS by different clinical variables in epithelial ovarian cancer (EOC) patients.

**Methods:** The clinical records of 1134 EOC patients treated at Samsung Medical Center between 2002 and 2015 were retrospectively reviewed. The primary outcome of this study was to evaluate the surrogate of PFS for OS by clinical variables. Correlation analyses with all pair-wise comparison were performed to assess the association of PFS and OS for each clinical variable. After multivariate analysis for PFS and OS, scatter plot with hazard ratio (HR) (with 95% CI) of PFS and OS were drawn for clinical variables.

**Results:** Of the 1134 EOC patients, 611 (53.9%) experienced relapse and a further 417 (36.8%) died within a median follow-up period of 47 months (range, 3–177 months). For entire cohort, there is a significant linear correlation between PFS and OS (p-value < 0.0001), and the degree of correlation is high (Spearman correlation coefficient = 0.8243). In Z-test using Fisher’s transformation, patients with early stage (I, II) (0.9059, p < 0.001), lower grade (0.9019, p < 0.001), and non-serous histology (0.8853, p < 0.001) showed higher correlation coefficient. In patients with no residual disease (0.8661, p < 0.001), no pelvic lymph node metastasis (0.8275, p < 0.001), no paraaortic lymph node metastasis (0.8267, p < 0.001), and non-serous histology (0.8853, p < 0.001), higher correlation coefficient was shown. In scatter plot for HR of PFS and OS, presence of residual disease, high grade, neo-adjuvant chemotherapy, lymph node metastasis were not located within estimated regression area implicating low correlation coefficient.

**Conclusions:** The treatment effect on OS is largely predictable according to that on PFS in EOC, especially for patients with early stage, low grade, non-serous, no residual disease, without lymph node metastasis.
0228
The prognostic role of preoperative neutrophil-lymphocyte ratio and platelet-lymphocyte ratio in early-stage cervical cancer
Prachratana Nuchpramool, Jitti Hanprasertpong
Prince of Songkla University, Hatyai, Songkhla, Thailand

Introduction: At present, inflammation mediators (such as chemokines, cytokines, prostaglandin), C-reactive protein, neutrophil-lymphocyte ratio (NLR) or platelet-lymphocyte ratio (PLR) are prognostic factors in several types of cancer including ovarian cancer, and endometrial cancer. However the prognostic role of NLR and PLR on clinical outcomes of cervical cancer still controversy especially in early stage.

Objective: To evaluate the prognostic role of preoperative NLR and PLR in predicting oncologic outcomes in stage IA2-IB1 cervical cancer patients after RHPLD.

Methodology: This study included 484 early stage cervical cancer patients who underwent RHPLD from 2001 to 2016 at Songklanagarind Hospital. Preoperative NLR, PLR and clinicopathologic features were analyzed to find factors relevant to the OS and DFS.

Results: The 5-year OS and 5-year DFS were 88.3% and 96.9%, respectively. The median of NLR and PLR of 1.8 and 119, respectively, were the cut-off values. The independent factors associated with OS were age (p = 0.005), parametrial involvement (p = 0.039), node positive (p = 0.014), and anemia (p = 0.015) and DFS were histological cell type (p = 0.001), deep stromal invasion (p = 0.001), and node positive (p = 0.013). High NLR significantly correlated with age (p = 0.011), tumor size >2 cm (p = 0.045), and patients who received adjuvant treatment (p = 0.038). Only patients who received adjuvant treatment were significantly related with high PLR.

Conclusion: This study reveals no statistically significant NLR and PLR that predict oncological outcome of early stage cervical cancer after RHPLD.

0230
Is pelvic lymphadenectomy always necessary for selected early stage cervical cancer?
Kulisara Nanthamongkol, Jitti Hanprasertpong
Prince of Songkla University, Songkhla, Thailand

Background: Early-stage cervical cancer (stages IA2-IB1) has a low incidence of lymph node metastasis (LNM). The pelvic lymphadenectomy, which is the routine surgical treatment, causes serious morbidities. Several studies have tried to determine low risk patients for which the pelvic lymphadenectomy can be omitted, but the results have been inconsistent.

Objective: To identify potential clinicopathological risk factors of lymph node metastasis in early-stage cervical cancer.

Methods: The study included 496 patients diagnosed with stages IA2-IB1 cervical cancer who underwent a radical hysterectomy with pelvic lymphadenectomy. The potential risk factors of LNM were evaluated.

Results: The incidence of LNM in this cohort was 4.84% (24/496). LNM was more common in patients with deep stromal invasion (DSI), tumor size >2 cm, lymph vascular invasion (LVI) and parametrial involvement (PI). Multivariate analysis showed DSI (P = 0.004) and PI (P = 0.008) were independently associated with LNM. The median follow up time was 56.90 months. The patients with LNM had poorer 5-year overall survival (OS) (77.78%; 95% confidence interval (CI) 44.21-92.55) than the patients without LNM (98.16%; 95% CI 95.63-99.23; P = 0.002) and also poorer 5-year recurrence free survival (RFS) (65.48%; 95% CI 38.62-82.82) than the patients without LNM (90.16%;95% CI 86.51-92.87; P < 0.001).

Conclusions: Pelvic lymphadenectomy may be omitted in stage IA2-IB1 cervical cancer patients who have no DSI and without PI. LNM affects the oncological outcomes.

Keywords: uterine cervical neoplasm, hysterectomy, lymph node excision, lymphatic metastasis, prognosis, risk factors

0236
Clinical analysis of 24 cases of robotic-assisted radical hysterectomy
Jinhong Qi
Jilin Province Tumor Hospital, Changchun, China

Objective: To explore the safety, feasibility and clinical of Da Vinci robot surgical system for radical hysterectomy.

Methods: Retrospective summary the clinical data and therapeutic effect of 24 cases (cervical cancer IA2-IIA2) Da Vinci robotic surgery system of radical hysterectomy from Jilin province tumor hospital from October 2014 to October 2016.

Results: 24 cases were successfully completed surgery, no transfer laparotomy and change. 1 case fertility-sparing surgery, 7 cases pelvic nerve preservation. The operation time 135-280 min, the average time (166.7 ± 16.5) min; intraoperative blood loss 35-95 ml, on average (168.4 ± 141.9)ml; the recovery time of bladder function(postoperative residual urine less than 100 ml,spontaneous voiding)164-356 h, the average time (224.7 ± 15.9) h; the number of lymph nodes 17-38, on average (31.4 ± 5.7); length of hospitalization 91-361 h, the average time (168.7 ± 12.5) h.
Conclusion: Da Vinci robotic surgical operating system applied in radical hysterectomy is safe, feasible, patients trauma with small, fast recovery, worthy of clinical popularization and application.

0237
The significance of preoperative serum cancer antigen 125 in malignant ovarian germ cell tumors
Ju-Hyun Kim, Jeong-Yeol Park
Asan Medical Center, Seoul, Republic of Korea

Objective: To determine the prognostic value of preoperative serum cancer antigen 125 (CA 125) in malignant ovarian germ cell tumors (MOGCTs).

Methods: Using information from medical databases, we investigated 161 patients with histologically diagnosed MOGCTs between 1993 and 2014. We chose the optimal cut-off value of CA 125 by using a receiver operating characteristic (ROC) curve.

Results: The median patient age was 24 years (range, 6-52 years). The most common histologic type was immature teratoma. Forty-eight patients had a normal range of serum preoperative CA 125 (<35 U/mL).

Most patients had stage I disease. Fertility-sparing surgery was performed for 138 patients, and staging surgery in 118 patients. The median tumor size was 15 cm. Ninety-four patients had ascites at surgery. Spillage of the tumor was observed in 51 patients. Fourteen patients had positive cytology, 12 had lymph node metastasis, and 61 patients had ovarian surface involvement. Six patients had residual tumors. We determined the reference level of CA 125 (≥78 U/mL) using a ROC curve. On univariate analysis, lymph node metastasis, positive cytology, ascites, ovarian surface involvement, tumor rupture, age, tumor size, and stage were significantly associated with elevated serum preoperative CA 125 levels (≥78 U/mL). Patients with an elevated serum preoperative CA 125 level (≥78 U/mL) had poorer disease-free survival, but this was not statistically significant. However, elevated preoperative CA 125 (≥78 U/mL) was significantly associated with poorer overall survival.

Conclusion: Elevated preoperative serum CA 125 is associated with poorer prognostic factors and may have prognostic value in patients with MOGCTs.

0245
Long-term outcomes after laparoendoscopic single-site surgery in endometrial cancer
Jin Hwi Kim, Keun Ho Lee
The Catholic University, Seoul, Republic of Korea

Study Objective: To assess the surgical outcomes and long-term results of laparoendoscopic single-site surgery (LESS) in patients with early-stage endometrial cancer.

Design: Retrospective cohort study (Canadian Task Force classification II-2).

Setting: Two referral cancer centers.

Patients: 93 women with endometrial cancer managed by laparoscopy from 2011-2013 in two referral centers.

Interventions: Demographic, surgical, perioperative and pathological characteristics of 26 consecutive patients who underwent LESS and control group consisted of 67 consecutive patients who underwent conventional multi-port laparoscopic surgical staging were analyzed and then compared. Recurrence-free and overall survival was calculated by use of Kaplan-Meier method.

Measurements and Main Results: No patient in the LESS or conventional laparoscopic surgery (CLS) group required an additional trocar or conversion to laparotomy. There were no intergroup differences in mean age, menopause status, body mass index, and previous history of abdominal surgery. Further, there were no inter-group differences in the number of total (LESS vs CLS, 22.2 ± 18.2 vs 24.9 ± 10.6, P = 0.48) lymph nodes retrieved; hemoglobin difference (1.5 ± 1.4 vs 1.4 ± 1.0, P = 0.90). The mean operative time was 198.8 ± 71.4 minutes in the LESS group and 249.2 ± 74.0 minutes in the CLS group (P < 0.01). The mean length of hospital stay was 5.1 ± 1.2 days in the LESS group and 8.0 ± 2.2 in the CLS group (P < 0.01). Overall and disease-free 5-year survival rates did not differ between the 2 groups. (95.2% and 92.2% versus 76.4% and 75.6%, respectively).

Conclusion: Laparoendoscopic single-site surgery was a feasible, safe, and efficacious procedure for patients with endometrial cancer, with similar survival and recurrence rates and without any more complications compared to the conventional laparoscopic surgical staging.
0252
Xanthogranulomatous inflammation of the omentum mimicking metastatic ovarian malignancy - a case report
Kamrun Nesa Begum
Chittagong General Hospital, Chittagong, Bangladesh

Introduction: Xanthogranulomatous inflammation is a special form of chronic inflammation in which the affected organ is destroyed and is replaced by large number of lipid laden histocytes. Xanthogranulomatous inflammation of omentum is not uncommon. Its presentation as mass lesion in pelvic cavity and invasion of surrounding tissue can lead to misdiagnosis of neoplastic lesion. Also radiological evaluation, surgical findings and gross features mimics ovarian malignancy.

Objective: The case is of interest in view of its diagnostic dilemma due to clinical manifestations, radiological and macroscopic features resemblance to metastatic ovarian malignancy.

Case: A 42 year old multiparous woman presented with complaints of dyspepsia, abdominal pain, a lump in the lower abdomen for 5-6 months. On abdominal examination revealed an ill-defined, irregular mass, mixed consistency with restricted mobility. Per vaginal examination showed uterus not felt separately and revealed the same mass. On ultrasound examination revealed a large pelvic solid-cystic mass about 11.9x10.8x9.07 cm possibly of left adnexal origin with ascites. Hematological and tumour markers are normal except CA-125 (105 u/ml). A provisional diagnosis of complex ovarian cyst was made; planned for laparotomy. She underwent total abdominal hysterectomy with bilateral salpingo-oopherectomy and partial omentectomy. Ascetic fluid was sent for analysis and the specimen was sent for histopathological examination. It revealed both sided papillary serous cyst adenoma and xanthogranulomatous inflammation of omentum and no malignant cell was found both in cytology and histopathology. Intraoperatively the omentum was found thick, as an omental cake and the nodules over the surface mimics metastatic ovarian malignancy. Preoperative MRI scanning and peroperative frozen section biopsy may aid in the diagnosis of this condition and thus avoid aggressive surgical treatment.

Conclusion: Knowledge and consideration of this distinct inflammatory lesion should be there while treating patient with tuboovarian mass to avoid unnecessary radical surgical procedure especially in young female.

0269
Sentinel lymph nodes mapping in cervical cancer stage IAI - IIB - a single center experience
So-Hyun Nam, Dae-Young Kim, Joo-Hyeok Kim, Yong-Man Kim, Young-Taek Kim, Joo-Hyun Nam, Ju-Hyun Kim
Asan Medical Center, Seoul, Republic of Korea

Objective: The purpose of this study was to determine the validity and detection rate of sentinel lymph nodes (SLN) mapping using Indocyanine green (ICG) in patients with stage IAI - IIB cervical cancer.

Methods: A prospective observational study was performed. Hundred-three patients were included with histologically diagnosed with cervical cancer stage IAI - IIB who were treated at Asan Medical Center, Seoul, Korea from 2015-2017. After using ICG to detect SLN during surgery, we removed SLN following standard radical surgery and bilateral pelvic lymphadenectomy.

Results: The median patient age was 45 years (range, 29-77 years). The most common surgery was a laparoscopic radical hysterectomy (44.7%). Eight patients (7.8%) underwent fertility-sparing surgery, and the robotic radical hysterectomy was performed for 41 patients (39.8%). The most common histologic type was squamous cell carcinoma (69.3%). Stage IB1 was most common (61.2%). The median tumor size was 2.4 cm (range, 0.1-8 cm). Eighty-eight patients (85.4%) had bilateral pelvic SLN. The mean number of SLN was 2 (range, 0-5). The most common location of SLN was obturator. Twenty-seven patients had nodal metastasis after lymphadenectomy on final H&E. The sentinel node was the only positive node in 9% (n = 9) of cases. Side specific detection rate was 92.7%. A total of 35 hemipelvis had lymph node metastasis, 25 of which involved the SLN, resulting in a sensitivity of 71.4%, false negative rate (FNR) of 28.6%, specificity of 100% and accuracy of 94.8%. Tumor size, lymphovascular space involvement, parametrium involvement, previous LEEP history and vagina involvement status were associated with false negative detection rate of SLN mapping. In the case of tumor size less than 4 cm and negative imaging study, the study revealed that a sensitivity of 90.9%, FNR of 9.1%, specificity of 100% and accuracy of 99.2%.

Conclusions: SLN mapping should be performed carefully according to Tumor size, lymphovascular space involvement, parametrium involvement, previous LEEP history and vagina involvement status.
The characteristics of the patient and the stage of cervical cancer in Hasan Sadikin Hospital in Bandung period of 2012
Ana Mariana
Hasan Sadikin Bandung Hospital, Bandung, West Java, Indonesia

Cervical cancer is the second most cancer that affects women across the world, there are about 500,000 new cases and 250,000 deaths each year. Cervical cancer can be triggered by a number of risk factors such as age, age of first marriage, education level, occupation, and parity, as well as the stadium. The research object is the entire medical records of patients with cervical cancer in RSHS hospital period of 2012. The study was conducted using descriptive method with cross sectional study. There are 485 cases of gynecologic cancer at the RSHS hospital period of 2012, the highest is 224 cases of cervical cancer. The most age is 41-50 years (48.6%), then >50 years (32.4%), 31-40 years (18.1%) and ≤30 years (1.0%). The most age of first marriage is <20 years (73.3%), then ≥20 years (26.7%). The most education level is elementary (57.1%), then high school (20.0%), junior high school (16.2%), university level (5.7%) and not school (1.0%). Most jobs is housewife (89.5%), then teachers (3.8%), civil servants (2.9%), traders (1.9%), private employees (1.0%), and farmers (1.0%). Most parity is ≥3 (74.3%), then <3 (25.7%). Stage IIIB is the highest (37.1%), then IIB1 (12.4%), IIB (11.4%), IB2 (11.4%), IIA2 (9.5%), IIA (4.8%), IIA1 (3.8%), IIIA (3.8%), IVB (1.9%), IA (1.0%), IB (1.0%), II (1.0%), IVA (1.0%). Conclusion, the most age of patient with cervical cancer is 41-50 years (48.6%), the most age of first married <20 years (73.3%), the most education level is low educational (58.1%) and most of them is in elementary level (57.1%), the highest employment is housewife (89.5%), and the highest parity is ≥3 (74.3%). Stage at diagnosis is the most advanced stage (55.2%) and most of them is stage IIIB (37.1%).

Keywords: cervical cancer, characteristics, stage

Case report on endometrial stromal sarcoma
Shoyela Shahnaz, Shahena Akhter, Afroja Ferdous
Chittagong Medical College Hospital, Chittagong, Bangladesh

Introduction: Endometrial stromal sarcoma (ESS) are very rare malignant tumours that constitute approximately 10% of all Uterine sarcomas but only around 0.2% of all uterine malignancies. Compare d to other Uterine malignancies. ESS effects younger women and the mean age is 42 to 58 years ESS is an indolent tumours with local recurrences and distant metastasis can occur even 20 years after initial diagnosis.

Case presentation: A 28 years old para-1 presented with pain and lump in lower abdomen she had cesarean section one year back due to transverse lie at term. Her post-operative period was uneventful. Six months following operation she felt heaviness in lower abdomen. She was in her lactational amenorrhoeic period. Her husband was abroad since her childbirth.

She visited a doctor and ultrasonography of whole abdomen was done, single uterine myoma of 10 x 12 cm was found. Clinically her vital signs were normal. Abdominal examination revealed tenderness in lower abdomen. On bimanual examination uterus was found 12 weeks pregnant uterus size, firm. Fornices were free and cervix looked apparently healthy on speculum examination. After counselling, she underwent myomectomy. But Cleavage of myoma could not be identified properly & it was difficult to remove the mass. She recovered well, but histopathological report showed low grade endometrial. Stromal sarcoma of uterine Corpus.

Medical board was arranged involving senior Gynecologists and oncologists. Total abdominal hysterectomy and bilateral salpingo - oopherectomy was performed. Radical surgery was advised because of the poor salvage in case of residual or recurrence of the disease and very few cases were presented so far.

Conclusion: It is an indolent tumour with local recurrences and distant metastasis can occur even 20 years after initial diagnosis. There need to be an index of suspicion whenever we deal a case with myoma or adenomyosis.

Activation of TWIST1 by COL11A1 promotes ovarian chemoresistance and anti-apoptosis through modulating NF-κB-mediated IκκB expression
Yi-Hui Wu1, Yu-Fang Huang1, Tzu-Hao Chang2, Cheng-Yang Chou1
1National Cheng Kung University Hospital, Tainan, Taiwan, 2Taipei Medical University, Taipei, Taiwan

Introduction: We have shown that collagen type XI alpha 1 (COL11A1) promotes ovarian cancer progression and is associated with chemoresistance to cisplatin and paclitaxel in ovarian cancer cells.

Objectives: Here we test the hypothesis whether TWIST1 regulated by COL11A1 could have a role in the resistance to anti-cancer drugs in ovarian cancer cells.
**Methodology:** Clinical study including 120 epithelial ovarian cancer patients/ Quantitative RT-PCR / Plasmid constructs and transfection/ Western blot analysis/ Cell fractionation/ Chromatin immunoprecipitation (ChIP) assay/ MTT cytotoxicity assay/ Annexin V-binding assay for apoptosis/ Statistics

**Results:** An increase in TWIST1 caused by COL11A1-upregulated IKKβ transcription was achieved by increased binding of SP1 to the IKKβ promoter. COL11A1-mediated nuclear factor-kappaB (NF-κB) activation, via the activation of IKKβ transcription, promoted TWIST1 and Mcl-1 expressions, which were associated with chemoresistance and anti-apoptosis in ovarian cancer cells. In addition, TWIST1 messenger RNA level in ovarian tumors was positively associated with tumor progression and clinical outcome in ovarian cancer patients.

**Conclusion:** COL11A1 activates TWIST1 by increasing IKKβ/NF-κB transcription, which results in progression of ovarian cancer and poorer patient outcomes. We suggest that IKKβ and TWIST1 may potentially be targeted in patients with COL11A1-positive tumors.

**0307**

Gray-scale and color doppler sonography in differentiating between uterine sarcoma and leiomyoma at the University of the Philippines - Philippine General Hospital: a five-year retrospective review

*Izabelle Julienne Figueras, Erlidia Llamas-Clark
University of the Philippines - Philippine General Hospital, Manila, The Philippines*

**Objectives:** This study aimed to determine the accuracy of gray-scale sonography and color doppler flow studies in terms of accuracy, sensitivity and specificity in the differentiating uterine sarcomas from leiomyomas in patients admitted for hysterectomy in a tertiary training government hospital.

**Methodology:** This is a retrospective study from 2010–2014 involving 41 cases of uterine sarcoma and 48 cases of leiomyoma. Records of cases of who underwent hysterectomy were retrieved from the Section of Gynecologic Oncology, Surgical Pathology logbooks and computerized databases. Ultrasound results were retrieved and reviewed. The Sonographic examination of the uterus was based on the latest consensus opinion from the Morphological Uterus Sonographic Assessment (MUSA) group, published in August 2015 in the Journal of Ultrasound in Obstetrics and Gynecology. In all the statistical tests, any associated p-values lesser than 0.05 alpha were considered significant.

**Results:** In identifying significant parameters of Gray scale and Doppler as predictors of sarcoma and myoma a detailed logistic regression was performed. This analysis revealed that serosal contour (p = 0.012), myometrial borders (p < 0.01), myometrial lesion location (p < 0.001), site or FIGO grade (p < 0.001), and rim (p < 0.001), were found to be statistically significant parameters in differentiating uterine sarcoma and myoma. These parameters were then analyzed and tested for accuracy. The presence of illdefined myometrial lesion borders showed a highest sensitivity and specificity in detecting uterine sarcomas 82.1% and 91.7%, with a PPV of 85.2%. As for the Doppler findings, the differences shown in both myoma and sarcoma cases were not statistically significant.

**Conclusion:** The presence of an ill-defined myometrial lesion border showed the highest sensitivity and specificity and may assist in differentiating uterine sarcoma and myoma. Doppler studies did not show significant results in differentiating uterine sarcoma and myoma. The role of color Doppler remains unclear and awaits further evaluation.

**0311**

Imiquimod as a valuable option for young women with high-grade squamous epithelial lesion (HSIL): prospective cohort study

*Dae-Yeon Kim
Asan Medical Center, Seoul, Republic of Korea*

**Objectives:** We aimed to evaluate how effective topical imiquimod is in the treatment of high-grade CIN so that excisional therapy can be avoided in young women.

**Methods:** Patients with high-grade CIN were allocated to this study. They did not want excisional therapy and agreed with topical imiquimod therapy, which required a once-a-week hospital visit for 8 weeks for the application of imiquimod to the cervix by a gynecologic oncologist. If the lesion got worse during treatment, it was decided to convert imiquimod therapy to excisional therapy.

**Results:** A total of 60 patients with a median age of 30 years (range, 22-42 years) agreed to receive topical imiquimod therapy. Of these, except one patient, all patients were positive for human papillomavirus (HPV). Thirty-one patients (52%) were positive for High-risk HPV. Thirty patients (50%) had cervical intraepithelial neoplasia 3 (CIN)3, and 28 (47%) had CIN2 on their initial punch biopsy. Moreover, two patients had high-grade squamous intraepithelial lesion (HSIL) on their PAP without punch biopsy. Only one patient stopped treatment because of pregnancy.
On the last examination, 39 patients (65%) had negative intraepithelial lesions, 4 (7%) had atypical squamous cells of undetermined significance, and 5 (8%) had LSIL. 3 patients (5%) had ASC-H undergoing loop electro surgical excision procedure (LEEP). The results were CIN3. Nine patients (15%) had persistent HSIL: 7 patients underwent LEEP, resulting in CIN 3 except two patients with superficially invasive squamous cell carcinoma. Twenty-seven patients (45%) were negative for HPV after therapy.

Conclusions: This study showed that topical imiquimod therapy was effective for the treatment of high-grade CIN, with a histologic completely regression rate of 66%, histologic lower grade regression rate of 15% and HPV eradication rate of 45%. Based on our findings, imiquimod therapy might have a successful therapeutic effect in young women with CIN 2-3 so that they can avoid excisional therapy.

0314
Expression of estrogen and progesterone receptors in tumor stroma predicts favorable prognosis of cervical squamous cell carcinoma
Tzu-Chi University, Hualien, Taiwan

Objectives: To investigate the expression of estrogen receptor α (ERα) and progesterone receptor B (PRB) in the stroma and carcinoma tissues of cervical cancer, and their relationship to clinical characteristics and the status of human papillomavirus HPV infection.

Methods: Expressional levels of ERα and PRB in tissue blocks of 95 cervical carcinomas were independently scored by two pathologists. Human papillomavirus DNA, viral load and genotypes were determined by PCR. Clinical characteristics were reviewed from chart and cancer registry.

Results: ERα and PRB were mainly expressed in the stroma but not in the carcinoma tissues of the cervical cancer, and their expressions were highly correlated. More stromal ERα were found in early-stage tumor than in advanced tumors. Greater stromal expressions of ERα and PRB were associated with a more favorable prognosis ($p = 0.018$ and $p = 0.004$, respectively). The expressions were not related to the differentiation of cancer, the status of HPV infection, the HPV load or the genotype. In multivariate analysis, stromal ERα and PRB expression were independently associated with a lower risk of mortality. The adjusted hazard ratios (95% confidential interval) of mortality for low- and high-expression of ERα were 0.19 (0.04-0.87) and 0.15 (0.03-0.81), respectively; While for low- and high-expression of PRB were 0.46 (0.19-1.16) and 0.24 (0.06-0.96), respectively.

Conclusion: This study showed that stromal ERα and PRB expression are independent prognostic indicators of cervical squamous cell carcinoma.

Key Words: Cervical cancer, Stromal progesterone receptor B, Stromal estrogen receptor α, Prognosis

0325
Management of acute haemorrhage following chemotherapy for invasive molar pregnancy by embolization and conservative fertility-sparing surgery
Hamad Medical Corporation, Doha, Qatar

Introduction: Gestational trophoblastic disease encompasses a range of premalignant (molar pregnancies both partial and complete) and malignant (invasive mole, choriocarcinoma and the rare placental site trophoblastic tumor) disorders of trophoblastic tissue. Invasive mole can present as a surgical emergency in the event of rapidly progressive and highly vascular trophoblasts causing perforation of uterine tissue and invasion of vasculature. Historically, in most cases, hysterectomy has been used a life saving measure. However, in young women desirous of future fertility, other possible options of management should be considered.

Methods: This is a case report communicating a novel method of treatment in this clinical setting.

Results: We present the rare case of a young nulliparous woman who after receiving her first dose of chemotherapy for an invasive molar pregnancy presented acutely via the emergency department with acute pain and bleeding. Investigations revealed a large haemoperitoneum with a uterine perforation. The patient was managed by initial embolization to control the haemorrhage followed by a wedge resection of the site of trophoblastic perforation and uterine repair thus avoiding a hysterectomy. Following surgery there was a rapid fall in βhCG values and the patient then completed her chemotherapy. βhCG levels have remained at normal levels since treatment with a follow-up of 6 months.
Conclusion: This report discusses the use of a new therapeutic option for the management of acute haemorrhage secondary to invasive molar pregnancy. The combination of modalities may offer a fertility-sparing option for selected women in similar circumstances.

0338
Difference in practice patterns in the management of endometrial cancer: a survey in four East Asian countries
Taek-Sang Lee¹, Jung-Yun Lee², Jae-Weon Kim³, Rong-Yu Zhang⁴, Xiao-Jun Chen⁵, Jian-Xin Yang⁶, Kung-Lialing Wang⁷, Toru Sugiyama⁸
¹Seoul National University Boramae Hospital, Seoul, Republic of Korea, ²Yonsei University College of Medicine, Seoul, Republic of Korea, ³Seoull National University Hospital, Seoul, Republic of Korea, ⁴Fudan University Zhongshan Hospital, Shanghai, China, ⁵Fudan University, Shanghai, China, ⁶Peking Union Medical Center, Beijing, China, ⁷Mackay Memorial Hospital, Taipei, Taiwan, ⁸Iwate Medical Center, Morioka, Japan

Objective: To identify current practice patterns of care in the surgical and adjuvant management of endometrial cancer in East Asia (Korea, Japan, China, Taiwan)

Methods: We conducted a survey of active members of the Gynecologic Oncology Group in four East Asian countries to try to identify how they would manage various case scenarios for endometrial cancer. Data were collected using an Internet survey database.

Results: A total of 376 members from Korea (n = 108), Japan (n = 140), China (n = 51), Taiwan (n = 77) responded to the survey. For early-stage endometrial cancer, laparotomy (57.7%) was the most preferred mode of surgery in Japan and laparoscopy was the most common in other three countries (81.1% from Korea, 84.3% from China, and 61.8% from Taiwan). For patients with presumed stage IA/G1 disease, approximately 65% of respondents favor systematic lymphadenectomy and only 15.4% stated that lymphadenectomy could be omitted. For patients with presumed stage IB disease, most respondents stated systematic lymphadenectomy should be performed (92.6% for stage IBG1, 95.8% for stage IBG3). On the other hand, the extent of lymphadenectomy was different between countries (P < 0.001). Regarding indications for adjuvant therapy for Stage IIIA and IIIC1, considerable agreement was found between countries. However, preferred options for adjuvant therapy varied according to countries (P < 0.001); chemotherapy was the most commonly used option in Japan, whereas concurrent chemoradiotherapy was the most preferred in other countries.

Conclusion: A considerable agreement was found in the necessity for lymphadenectomy as surgical staging, and indications for adjuvant therapy. However, there is a broad variation in both the surgical extent and adjuvant treatment of endometrial cancer between countries.

0343
Matrix metalloproteinase (MMP)-9 in extracellular vesicles as potential biomarker for ovarian cancer
Hui Qing Yeong¹, Soon Sim Tan², Wei Kai Sim², Mor Jack Ng³, Kwai Lam Yam⁴, Yong Kwee Lim⁵, Sai Kiang Lim⁶, Kok Hian Tan⁷
¹Duke NUS Medical School, Singapore, ²Institute of Medical Biology, Agency for Science, Technology and Research (A*STAR), Singapore, ³Department of Gynaecological Oncology, KK Women’s and Children’s Hospital, Singapore, ⁴Department of Maternal Fetal Medicine, KK Women’s and Children’s Hospital, Singapore

Introduction: Cystadenoma, or benign cysts, are precursors to serous and mucinous high-grade carcinoma. To invade and metastasize, matrix metalloproteinase (MMP)-9 is instrumental. It has been detected in ascitic fluid from patients with advanced ovarian cancer. MMP-9 can be detected in plasma, which contains extracellular vesicles (EVs). EVs may reflect the pathological states of cells and potentially serve as sources for novel biomarker discovery. Since MMP-9 has been observed in epithelial ovarian carcinoma cell lines, it is a potential ovarian cancer biomarker for early detection. The clinical implication is that ovarian cancer could be detected earlier and preoperatively for better prognosis and management.

Objective: In this pilot study, we aim to identify MMP-9 as a potential candidate cancer biomarker in women with ovarian cysts for early diagnosis of ovarian cancer, by determining if there are any significant differences in the levels of MMP-9 in plasma or plasma EVs.

Methodology: Clinical data and blood plasma of 37 cases of ovarian cysts were collected at KK Women’s & Children’s Hospital (KKH), Singapore. Cholera Toxin B chain (CTB) and Annexin V (AV) were used to isolate GM1 ganglioside-rich EV (CTB-EVs) and phosphatidylserine-rich EV (AV-EVs) from the plasma, respectively. Levels of MMP-9 in plasma, CTB-EVs and AV-EVs were determined using biomarker-specified enzyme-linked immunosorbent assay (ELISA).

Results: Patients with malignant ovarian cancer had statistically significant (p < 0.05) elevated levels of MMP-9 in AV-EVs, a fold difference of 1.6, when compared to patients with benign cysts. This may reflect
the cellular activities during diseased state and the magnitude of protein expression required for cancer progression.

**Conclusion:** This study has identified MMP-9 in AV-EVs as a promising candidate biomarker to screen for malignant ovarian cancer in patients with cysts. It provides preliminary data to support further investigation of MMP-9 in AV-EVs in a larger cohort of women with ovarian cysts.

**0349**

A case of primary fallopian tubal carcinoma diagnosed with primary peritoneal cancer before first debulking surgery

Satoshi Nakagawa, Mariko Jitsumori, Mariko Hashimura, Ayako Hosoi, Kazuya Miyazawa, Satoru Munakata, Toshiya Yamamoto

Sakai City Medical Center, Sakai, Japan

Recently, it is suggested that serous tubal intraepithelial carcinoma (STIC) is may be an occult source of primary peritoneal carcinoma. This case report describes a 59-year-old Japanese woman, gravida 1, para 1 who presented with progressive massive ascites. The computed tomography scan, abdominopelvic magnetic resonance imaging, and diagnostic paracentesis suggested peritoneal carcinoma. There was no visible lesion on uterus and adnexa. Blood CA-125 was elevated at 1900UI/mL. After 4 courses neoadjuvant chemotherapy with paclitaxel and carboplatin, operation was performed. Although there was no malignant lesion in bilateral ovary, STIC and invasive serous adeno carcinoma was observed in fallopian tube. They showed positive immunohistochemical staining for P53 and MIB1, and we diagnosed with primary tubal cancer. Conclusion: Primary peritoneal carcinoma can be associated with STIC and careful pathological investigation of fallopian tube should be performed after surgical treatment.

**0360**

Isolated metastasis to the uterine cervix from primary breast carcinoma: a case report

Joan Marice Toh, Leo Francis Aquilizar

St. Luke's Medical Center, Quezon City, The Philippines

Metastasis of malignancy to the uterine cervix is a rare event in itself. Breast cancer is a commonly diagnosed malignancy in women that has been extensively studied, and it has been known that common areas of metastasis are the lungs, skin, liver and brain. Since the 1980s, there have been a handful of reported cases of metastasis to the uterine cervix. We present the case of a 64-year-old Gravida 4 Para 1 (1031) who developed postmenopausal bleeding 9 years after treatment of the primary breast cancer, which after work-up, turns out to be an isolated metastatic lesion to the cervix. In cases such as this one, surgery is a reasonable treatment option that is sufficient in itself without the need for chemotherapy or radiation. Our patient was offered a different treatment option, which is chemotherapy, instead of proceeding straight to the treatment option presented by most case reports. This paper aims to highlight possible routes of metastasis, to emphasize the need for regular gynecological examination in patients with breast cancer, as well as the importance of aggressive treatment in the form of surgery in cases of isolated cervical metastasis.

**0371**

Non-Hodgkin’s lymphoma of the cervix: the unexpected and unusual presentation

Suzanne Khaw

1Westmead Hospital, NSW, Australia, 2Fairfield Hospital, NSW, Australia

**Background/Introduction:** Female genital tract lymphoma is an extremely rare diagnosis accounting for only 1.5% of extra nodal non-Hodgkin’s lymphoma and a meagre less than 0.5% of gynaecological cancer. Primary lymphoma of cervix is considered less common compared to cervical involvement in a multi organ disease. Majority of these rare cases are diagnosed during routine screening on Papanicolaou (Pap) cytology smear.

Due to the limited number of primary lymphoma of the cervix, a standard regime has not been developed. This is a case report of a 73 year old non-English speaking background lady who presented to her obstetrician with one month history of post-menopausal bleeding per vaginum. Histology revealed a high grade large B cell non-Hodgkin’s lymphoma with a high proliferative index, expressing C-MYC protein in a high proportion of cells and CD10 and LCA positive on a cervical biopsy.

**Objectives:** This poster presents the rarity of cervical lymphoma; including it’s incidence, clinical presentation, diagnostic dilemma from benign conditions as well as treatment regime.

**Methods (including type of data collected):** Case report and literature search/review on Pubmed/MEDLINE. Comparing both in terms of presentation, diagnosis and treatment management.

**Results:** Patient has been diagnosed in a timely manner and appropriately managed as well as treated.
Conclusions: This presentation of cervical diffuse large B cell non-Hodgkin’s lymphoma highlights the importance of having an absolute open mind when working up patients presenting with common symptoms in gynaecology like bleeding per vaginum and understanding the different management approaches for these rare conditions.

0388
High expression of YWHAZ is associated with poor prognosis in ovarian cancer
Woong Ju, Seung Cheol Kim
Ewha Woman's University, School of Medicine, Seoul, Republic of Korea

Objective: Ovarian cancer is one of the most lethal malignancies in women and it is urgently needed to find a new marker for the progress of ovarian cancer. YWHAZ is believed to function in cell signaling, cell cycle control and apoptosis, and its overexpression is known to be associated with disease recurrence and poor clinical outcome in some cancers including breast cancer. However, its role is not revealed in the progression of ovarian cancer. Our goal is to investigate whether YWHAZ is associated with the progression of ovarian cancer.

Methods: We examined its expression in ovarian tumor tissues obtained from 88 patients with various histologic and stage ovarian cancers using immunohistochemistry (IHC). Ovarian cancer cell lines and immortalized ovary epithelial cell line were cultured and YWHAZ expression was analyzed by immunoblotting. Cell viability was measured using the MTS assay.

Results: 53.4% of ovarian cancers showed high expression of YWHAZ and its overexpression was positively correlated with a more advanced pathologic stage and grade of ovarian cancers. Its high expression was significantly associated with overall survival and recurrence-free survival rates of the patients (P = 0.0342 and P = 0.017, respectively). Down-regulation of YWHAZ by RNAi in ovarian cancer cells led to a dose-dependent increased sensitivity to cisplatin-induced cell death.

Conclusion: Our results suggest that YWHAZ overexpression might be a potential target for developing a prognostic biomarker and the inhibition of YWHAZ can be a therapeutics that can enhance the anti-tumor activity of cisplatin for ovarian cancer.

0389
Aberrant single-minded homolog 1 (SIM1) methylation as a potential biomarker for cervical cancer
Seung Cheol Kim, Woong Ju
Ewha Woman’s University, School of Medicine, Seoul, Republic of Korea

Background: The aim of this study is to evaluate the possibility of using the methylation status of single-minded homolog 1 (SIM1) as a diagnostic biomarker for cervical cancer.

Methods: All of the patient and normal specimens including the normal cervix (n = 10), cervical cancer tissues (n = 45), blood (n = 45) and cervical scrapes (n = 110), were retrospectively obtained. Quantitative methylation specific PCR was performed to detect SIM1 methylation in primary tumors, cervical scrapes, and plasma cell-free circulating DNA (ccfDNA). SIM1 expression was detected by western blot analysis.

Results: We found that the promoter of SIM1 was highly methylated in the majority of the cervical cancer tissues that we tested, but not in any of the normal tissues. Hypermethylation of SIM1 led to a pronounced reduction in SIM1 expression in cervical cancer tissues compared with normal cervix tissues. SIM1 methylation status on cervical scrapes also distinguished cervical cancer from normal and low-grade cervical intraepithelial neoplasia. The degree of SIM1 methylation was significantly associated with the severity of the disease (Ptrend <0.0001). We also investigated the possibility of detecting methylated SIM1 in plasma ccfDNA from cervical cancer patients. Methylated SIM1 was detected in 36.6% (15/41) of the ccfDNA samples, and concordance rate with the matched cancer tissues was 41.5% (17/41) with sensitivity 38.5% and specificity 100%.

Conclusion: This study has shown that SIM1 is frequently hypermethylated in cervical cancer, compared with normal cervix tissue and low-grade CIN samples, suggesting that the methylation status of SIM1 could be a potential diagnostic biomarker for cervical cancer.