Linkou Chang Gung Memorial Hospital were collected. Study subjects were those: 1) with known endometrial lesions, which including any type of endometrial hyperplasia and any stage of endometrioid carcinoma of the endometrium, 2) with symptoms/signs of endometrial hyperplasia or endometrial cancer, including abnormal uterine bleeding with thick endometrial stripe or medically uncontrollable uterine bleeding, as study group. Patients with benign uterine/ovarian tumors were invited as the control group. The sample was collected using a designed cotton swab by study physician and was stored in 20°C until ELISA analysis.

Results: Statistically significant elevation of IL-6 titer and VEGF titer but not PRTN-3 among endometrial cancer patients, compared with those with normal uterus or with benign tumors, were noted. No significant differences were observed for PRTN-3 level within the groups. Algorithm for endometrial hyperplasia and endometrial cancer screening is established accordingly.

Conclusion: This study represents the first evaluation of IL-6, PRTN-3 and VEGF level extracting from vaginal fluid as potential markers in screening for endometrial cancer. As a noninvasive measure, further validation study is needed.

Oral (OMi5)

Gynecologic Pathology, Genetics and Epidemiology

<https://doi.org/10.3802/jgo.2021.32.S1.OMi5>

Association between hospital treatment volume and survival of surgical cases with gynecologic malignancy in Japan

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Objective: Associations between hospital treatment volume and survival outcomes for surgical cases with 3 types of gynecologic malignancies, and the trends and contributing factors for high-volume centers were examined.

Methods: The Japan Society of Obstetrics and Gynecology tumor registry data based retrospective study examined 167,642

women with 76,255, 41,187, and 45,200 of endometrial, cervical, and ovarian tumor, respectively, who underwent primary surgery in Japan between 2004 and 2015. Associations between the annual treatment volume and overall survival (OS) for each tumor type were examined. Institutions were categorized into 3 groups (low-, moderate-, and high-volume centers) based on prior study.

Results: Among the high-volume centers, the median surgical treatment volumes were 67 (interquartile range [IQR], 59–82), 68 (IQR, 59–91), and 35 (IQR, 31–41) cases/year for endometrial, cervical, and ovarian tumors, respectively. On multivariate analysis, younger age, rare tumor histology, and lymphadenectomy were contributing factors for women at high-volume centers (all, $p < 0.001$). During the study period, the proportion of high-volume center treatments was decreased, whereas that of low-volume center treatments was increased for the 3 tumor types (all, $p < 0.001$). Surgical treatment at high-volume centers improved OS than that at other centers (adjusted-hazard ratio [95% confidence interval]: 0.82 [0.76–0.88], 0.83 [0.76–0.91], and 0.88 [0.84–0.93] for endometrial, cervical, and ovarian tumors, all, $p < 0.001$).

Conclusion: For women with gynecologic malignancy in Japan, surgical treatments at high-volume centers conferred survival benefits. The practice pattern shifted with scattering of patients and treatments at high-volume centers were decreasing.

Oral (OMi6)

Gynecologic Pathology, Genetics and Epidemiology

<https://doi.org/10.3802/jgo.2021.32.S1.OMi6>

Mutations of DNA damage repair pathway-related genes in ovarian cancer detected by next-generation sequencing

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Objective: To study the mutations occurred in related genes in DNA damage repair pathway (DDR) in ovarian cancer (OC) patients detected by next-generation sequencing (NGS).

Methods: After NGS of tissue samples from 205 ovarian cancer cases, the mutation types and mutation frequencies of DDR pathway-related genes were classified and analyzed. Two-hundred five female Chinese patients with OC (including primary peritoneal cancer and fallopian tube cancer) were involved and detected by OncoDrug-Seq™ 603-gene panel assay through NGS using Illumina NovaSeq 6000.

Results: The mutated genes in the 205 OC patients were

related to various physiological activities of cells such as ERK (14.9%), PI3K (12.9%), RTK-RAS (20.9%) and other signaling pathways. There were 514 altered genes among all 205 patients: 491 mutations, 4 fusions, 10 copy number variants, and 9 deletions were found. The top 5 genes were *TP53* (25.1%), *BRCA1* (7.4%), *ARID1A* (5.4%), *KRAS* (4.7%), and *PIK3CA* (3.5%), etc. Ninety patients had homologous recombination repair (HRR) mutations and 71 patients had DDR mutations. *RAD50* (n=4) or *PALB2* (n=3) mutations were associated with tumor mutational burden (TMB).

Conclusion: Mutations in genes of DDR pathway were closely associated in Chinese gynecological cancers patients, particularly the HRR pathway. The landscape of gene alteration and TMB among Chinese OC populations in this study will further assist the utilization of these biomarkers to individualized therapy strategies.

Oral (OMi7)

Gynecologic Cancer Screening

<https://doi.org/10.3802/jgo.2021.32.S1.OMi7>

The short-term impact of COVID-19 pandemic on cervical cancer screening: a systematic review and meta-analysis

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Objective: A systematic review and meta-analysis was performed to evaluate the short-term impact of severe acute respiratory syndrome coronavirus 2 on cervical cancer screening based on the number of eligible women screened before the pandemic and during the pandemic.

Methods: After ruling out registered or ongoing systematic review regarding the impact of coronavirus disease 2019 (COVID-19) infection in cervical cancer cases in PROSPERO database, the systematic review and meta-analysis protocol was registered in PROSPERO (CRD42021279305). The electronic databases were searched for articles published in English between January 2020 and September 2021 and the study was designed based on Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines updated in 2020. The meta-analysis component was modified appropriately to synthesise the pooled proportion of women attending cervical cancer screening before and during the pandemic. Studies reporting the number of women undergoing cervical cancer screening by cytology, human papillomavirus DNA testing or co-testing before the pandemic and during the pandemic

were included. The studies reporting only the reduction in test volume or test rate per 100-person months were excluded. To assess the risk of bias in individual studies (quality assessment), chosen after the abstract and content review, the National Institutes of Health checklist for observational, cohort and cross-sectional studies was used. Meta-analysis was accomplished in STATA version 13.0 (College Station, TX, USA). The forest plots were constructed using metaprop package in STATA. A considerable amount of heterogeneity across the studies was anticipated as the included studies were mostly observational. The pooled proportion of women undergone cervical cancer screening was reported with 95% confidence interval (CI) along with χ^2 statistic (Q statistic) and I^2 index to quantify the heterogeneity.

Results: There are studies reporting the effect of COVID-19 on cervical cancer screening rate from Slovenia, Italy, Ontario (Canada), Scotland, Belgium, USA. The pooled proportion of women screened in 2019 was 8.79% (95% CI=6.12%–11.47%). During the pandemic period, the pooled proportion of women undergone screening was 3.22% (95% CI=2.48%–3.96%).

Conclusion: The decline in cancer screening rates has to be addressed to facilitate timely detection and management of precancerous lesions as well as cervical cancers. Scaling up of cervical cancer prevention strategies during the pandemic is essential to prevent the long-term effect of cervical cancer burden.

Oral (OMi8)

Miscellaneous

<https://doi.org/10.3802/jgo.2021.32.S1.OMi8>

Which risk of malignancy index (RMI-1, 2, 3, 4) is better for differentiating adnexal masses: a diagnostic dilemma

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Objective: To know the sensitivity and specificity of risk of malignancy index (RMI)-1, 2, 3, 4 to predict the nature of adnexal masses and to compare their areas under the curve (AUCs) and accuracy.

Methods: This is a prospective comparative study conducted in the Department of Obstetrics and Gynaecology at All India Institute of Medical Sciences, Jodhpur for 2 years from 2018 to 2020. This was the secondary objective of our study. All the women in the reproductive and post-menopausal age group presenting with adnexal masses, planned for surgery were