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

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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

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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

included in the study. Following the clinical assessment of the patient, serum cancer antigen 125 levels and an ultrasound pelvis/abdomen were done along with the other investigations needed for management. The findings were then classified as benign or malignant as per the various RMI classification systems using a cut-off of 200 for RMI-1, 2, 3 and that of 450 for RMI-4. The results were compared with the histopathology report obtained postoperatively.

Results: RMI-1 has a sensitivity of 70%, specificity of 85.42% and AUC was 0.85, and accuracy of 82.76. RMI-2 had a sensitivity of 80%, specificity of 82.64% with AUC of 0.856, and accuracy of 82.18. RMI-3 had findings similar to that of RMI-1 despite their University System of Georgia scores being different. But a had an AUC of 0.84. RMI-4 had a sensitivity of 90%, Specificity of 77.08%, and highest AUC of 0.87, and lowest accuracy of 79.31.

Conclusion: All the RMI scores showed comparable sensitivity and specificity. However, RMI-2 had slightly better sensitivity and specificity as compared to the rest. The addition of tumor size to the RMI-4 classification increases the sensitivity at the cost of specificity. In low-resource settings or developing countries, RMI is the most commonly used system for classifying adnexal masses as benign or malignant.

Oral (OMi9)

Miscellaneous

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Peripheral lymphocytes reflect exhausted immune phenotypes of tumor-infiltrating lymphocytes in endometrial cancer patients

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Objective: The aims of this study was to characterize exhausted immune phenotypes of tumor-infiltrating lymphocytes (TILs) in endometrial cancer patients and investigate their clinical relevance.

Methods: We isolated peripheral blood mononuclear cells (PBMCs) and TILs from 36 patients with newly diagnosed endometrial cancer and examined their composition, differentiation, and exhaustion status (expression of immune checkpoint receptors and T-cell transcription factors) using multicolor flow cytometry.

Results: The percentage of CD3 T cells in CD45⁺ hematopoietic cells were increased in TILs. Unlike CD4 T cells, the proportion of CD8 T cells and regulatory T cells (Treg) were significantly increased in TILs. Considering the CD8/Treg ratio, the increase in Tregs was more pronounced. When analyzing differentiation subsets using the markers CCR7 and CD45RA, effector memory T cells (CCR7⁺ CD45RA⁺) were enriched in TILs. Immune checkpoint receptors (PD-1, CTLA-4, TIM-3, and TIGIT) were expressed more on CD8 T cells and Tregs in TILs than in PBMC. Intriguingly, although TIGIT⁺ cells were increased in CD8 TILs, the percentage of CD226⁺ TIGIT⁺ cells among CD8 T cells were significantly decreased in TILs. Comparing proliferation marker (Ki-67), stem-like property (T cell factor-1; TCF-1), and exhaustion marker (TOX) between peripheral CD8 T cells and CD8 TILs, CD8 TILs showed higher expression of Ki-67 and TOX, and lower expression of TCF-1. In the case of Tregs, tumor-infiltrating Tregs showed higher expression of activation marker CD39, antigen-reactive marker 4-1BB, and proliferation marker Ki-67 than peripheral Tregs. Next, we analyzed correlation of immune profiles between peripheral T cells and TILs. The expression of PD-1, CTLA-4, 4-1BB, and CD39 showed significant correlation between peripheral and tumor-infiltrating Tregs. In the case of CD8 T cells, only PD-1 expression showed a significant correlation between PBMCs and TILs.

Conclusion: In endometrial cancer, tumor-infiltrating lymphocytes were exhausted and had suppressive properties. CD4 and CD8 TILs showed exhausted immune-phenotypes and tumor-infiltrating Tregs. Furthermore, peripheral lymphocytes reflect these immune-phenotypes of TILs in endometrial cancer patients.