Ki67 0.80, CEACAM1 0.78, CDKN2A 0.72, ORF1 0.71, VEGF 0.71, CA125 0.52, and HPV16E7 0.51. A logistic regression model combining multiple markers demonstrated that the addition of CDKN2A and CEACAM1 to Ki67 resulted in a modest improvement of AUC to 0.83 with an accuracy of 80%.

Conclusions Detection of cervical biomarkers using Simoa is feasible with Ki67, CDKN2A, and CEACAM1 demonstrating good test performance. This assay has the potential to triage patients with abnormal cytology and/or positive human papillomavirus test results. Future work will validate this biomarker panel and platform with an external cohort.

**EP075/#714** SURVIVAL OUTCOMES FROM LAPAROSCOPIC RADICAL HISTERECTOMY WITHOUT PREOPERATIVE CERVICAL CONIZATION IN 2018 FIGO STAGE IB1-IB2 CERVICAL CANCER

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**Objectives** To compare survival outcomes between minimally invasive surgery (MIS) for radical hysterectomy (RH) and open RH in 2018 FIGO stage IB1-IB2 cervical cancer patients who did not receive preoperative conization.

**Methods** We identified pathologically-confirmed 2018 FIGO stage IB1-IB2 cervical cancer patients who received primary Type C RH between 2006 and 2020. Patients who received cervical conization before RH were excluded. The study population was divided into MIS group (n=196) and open group (n=156).

**Results** Between the two groups, no differences were observed in histologic type, cervical tumor size, and depth of invasion. Despite similar proportions of patients with IB1 (23.5% vs. 19.2%; P=0.337) and those received adjuvant treatment (55.7% vs. 44.3%; P=0.429), lymphovascular space invasion was more commonly observed in the MIS group (35.7% vs. 24.4%; P=0.022). After a median follow-up of 63.5 months, the two groups showed similar overall survival, while the MIS group showed worse disease-free survival (DFS; 5-year rate, 79.4% vs. 91.1%; P=0.011). In multivariate analysis, MIS was identified as an independent poor prognostic factor for DFS (adjusted HR, 2.027; 95% CI, 1.1130–3.635; P=0.018). However, among stage IB1 patients (n=107), no difference in DFS was observed between the MIS and open groups: multivariate analysis revealed that MIS did not influence the disease recurrence rate (P=0.142).

**Conclusions** In 2018 FIGO stage IB1 cervical cancer, MIS RH without preoperative conization might not increase the disease recurrence rate after RH. Accurate preoperative identification of clinical stage is essential for early cervical cancer patients in deciding the surgical approach of RH.

**EP076/#303** IMMUNE AND INFLAMMATION-RELATED FACTORS ALTERATION AS A BIOMARKER FOR PREDICTING PROGNOSIS AND RESPONSIVENESS TO PD-1 MONOCLONAL ANTIBODY IN PATIENTS WITH RECURRENT CERVICAL CANCER

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**Objectives** We aimed to elucidate the potential mechanisms of effective responsiveness to anti-PD-1 and evaluate more reliable biomarkers for improving the predictive utility of the dominant populations of recurrent cervical cancer (RCC) to receive PD-1 monoclonal antibody.

**Methods** Peripheral blood RNA of PD-L1 positive patients with RCC receiving PD-1 monoclonal antibody were collected. Transcriptome analysis was applied to partial response (PR) patient and progressive disease (PD) patients before and after treatments. A novel prognostic immune-related response genes (IRRGs) model was constructed and correlated with the tumor immune characteristics. Its prognostic role was evaluated.

**Results** The number of differentially expressed genes (DEGs) in PR patient after treatments was much greater than that in PD patients, indicating high sensitivity to anti-PD-1 therapy in PR patient. Among PR specific pathways, tumor immunity, leukocyte migration, cytokine activity, NF-kappa B and interleukin-17 signaling pathway were prominently enriched. In addition, a IRRGs signature comprising CTLA4, AZU1, C5, LAT, CXCL2, GDF7, MPL, PPAR and CELA1 was established and validated to predict prognosis of RCC with great accuracy and specificity. This signature could monitor the immune status of tumor microenvironment (TME). Besides, we substantiated that stimulated adaptive immunity and down-regulated inflammation in pre-treatment patients with sensitivity to anti-PD-1 treatment.

**Conclusions** We verified IRRGs signature as an independent prognostic factor for survival and response to PD-1 monoclonal antibody, which plays a non-negligible role in the TME of RCC. Further investigations are warranted to confirm patients with stimulated adaptive immunity and downregulated inflammation could achieve a better survival benefit from PD-1 monoclonal antibody.

**EP077/#342** EXPLORATORY STUDY FOR PRECISION MEDICINE IN CERVICAL ADENOCARCINOMA

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**Objectives** Cervical adenocarcinoma is known to have poorer survival compared to squamous type. However, the survival outcome is different each histological subtype. Exploratory study was conducted to examined the genome of cervical cancer treated at our institution and compared these with TCGA data in the US.