

EP139/#824

WOULD PREOPERATIVE MOLECULAR PROFILING OF P53 MUTATION AND MISMATCH REPAIR DEFICIENCY BE USEFUL AS MARKERS TO PREDICT THE EXTENT OF SURGERY IN EARLY-STAGE ENDOMETRIAL CANCER?

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Introduction Staging operations for early stage endometrial cancer are performed uniformly, despite the fact that pathologic information can be obtained prior to surgery. According to molecular categories identified in the Cancer Genome Atlas, p53 mutation and MMRd are associated with poor prognosis. If there is a correlation between the molecular profile obtained from endometrial biopsy tissue and the extent of disease after surgery, it may be possible to personalize surgical planning.

Methods This study compared the P53 and MMR status of 173 patients with newly diagnosed and clinically staged I-II endometrial cancer who underwent surgical staging, with their final pathological results. All were classified into three groups based on their molecular profiles: abnormal p53, MMRd, and NSMP (no specific molecular profile). The presence of involvement in the cervix, adnexa, and lymph nodes was analyzed using the Kruskal-Wallis test.

Results Out of 173 patients, 17(9.8%) were assigned to p53 abnormal group, 33(19.1%) to MMRd group, and 123 (71.1%) to NSMP group. Among them, 18(10.4%) had cervical involvement, 8(4.6%) had adnexal involvement, and 8 (4.6%) had lymph node involvement. The p-values for the involvement of each group were 0.115 for cervix, 0.328 for adnexa, and 0.860 for lymph nodes, indicating no statistically significant relationship between molecular profile and disease extent.

Conclusion/Implications Molecular profiles do not seem to determine the prognosis based on the difference in stage at first onset in early stage endometrial cancer. Staging operations should follow current guidelines, but It is necessary to make efforts to individualize treatment plans based on information obtained through preoperative histology.

EP140/#1543

RESEARCH ON HOMOGENIZATION OF AI-ASSISTED MEDICAL IMAGING ANALYSIS SYSTEM FOR ENDOMETRIAL CELLS

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Introduction With the endometrial cell test is widely used in the primary screening of high-risk population of endometrial cancer. It revealed the shortage of cytopathology experts and the imbalance of resources distribution. We introduced convolutional neural network into the screening and diagnosis of endometrial cancer and established a set of AI-assisted medical imaging analysis system that can automatically identify and differentiate benign and malignant endometrial cell mass. But the

homogeneity in different hospitals has not been defined for clinical application.

Methods A retrospective study was conducted to select endometrial fluid-based cytological pathological sections from the First Affiliated Hospital of Xi'an Jiaotong University (Jiaotong University Group) and Xi'an Daxing Hospital (Daxing Group) from September 2021 to May 2023 due to abnormal vaginal bleeding or uterine abnormalities indicated by ultrasound, with 100 cases each. The results were reported by the AI-assisted medical imaging analysis system of the same model in the two hospitals. The accuracy, sensitivity and specificity were analyzed based on the pathological results of the patient's endometrial tissue as the gold standard.

Results The diagnostic accuracy of the AI-assisted endometrial cell medical imaging analysis system in the Jiaotong group and the Daxing group was 93.0% and 89.0%, respectively. The sensitivity was 87.8% and 82.1%, respectively, and the specificity was 96.6% and 91.7%, respectively. There was no significant difference in diagnostic accuracy, sensitivity, and specificity between the two systems ($P > 0.05$).

Conclusion/Implications The AI-assisted endometrial cell medical imaging analysis system shows homogenization in the diagnostic accuracy, sensitivity, and specificity when used in different medical institutions.

EP142/#1526

STUDY ON THE EFFECTIVENESS OF USING ARTIFICIAL INTELLIGENCE IMAGE RECOGNITION SYSTEM TO DIAGNOSE ENDOMETRIAL CYTOPATHOLOGY

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Introduction To explore the effectiveness of an image recognition system based on artificial intelligence (AI) in diagnosing benign and malignant endometrial cell clumps.

Methods Endometrial cytological specimens from the First Affiliated Hospital of Xi'an Jiaotong University and Xi'an Daxing Hospital from August 2021 to February 2023 were selected, and histopathology was used as the gold standard. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy of AI image recognition system (AI diagnosis) and professional pathologists' manual diagnosis (manual diagnosis) of benign and malignant endometrial cell clumps were compared and analyzed.

Results Among the 126 patients included in the analysis, the overall coincidence rate of AI diagnosis and histological diagnosis was 92.1% (116/126), which was highly consistent with histopathological results ($\text{Kappa}=0.841$); the overall coincidence rate of manual diagnosis and histological diagnosis was 94.4% (119/126), which was highly consistent with histopathological results ($\text{Kappa}=0.889$). There was no statistically significant difference between AI diagnosis and manual diagnosis methods ($\chi^2=0.568$, $P=0.451$). The sensitivity, specificity, positive predictive value, and negative predictive value of AI diagnosis were 91.8%, 92.3%, 91.8%, and 92.3%,

respectively. There were 126 cytology sections, each of which required 6.67 minutes for manual diagnosis and 5.00 minutes for AI diagnosis.

Conclusion/Implications The AI image recognition system has high diagnostic accuracy, sensitivity and specificity, which is equivalent to the manual diagnosis level of professional pathologists, and this system has application value in the diagnosis of benign and malignant endometrial cell clumps.

EP143/#483

A STUDY EVALUATING LIQUID-BASED ENDOMETRIAL CYTOLOGY TEST AND TRANSVAGINAL ULTRASONOGRAPHY AS A SCREENING TOOL FOR ENDOMETRIAL CANCER IN 570 POSTMENOPAUSAL WOMEN

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Introduction To evaluate the combination of transvaginal ultrasonography (TVS) and endometrial cytology test (ECT) as a potential diagnostic strategy for endometrial cancer and endometrial precancerous lesions in postmenopausal patients.

Methods 570 postmenopausal patients admitted in our hospital due to abnormal bleeding or other symptoms and/or with endometrium thickness over 5 mm on ultrasound. The endometrial thickness was evaluated by TVS. Following obtainment with written consent, all patients underwent ECT, hysteroscopy and then dilatation and curettage (D&C). Cytological sampling was conducted by scratching the uterus cavity using SAP-1 and the samples were prepared as liquid-based smear using SurePath technology. The samples were stained using Papanicolaou method. The correlation between cytological diagnosis and TVS results with the D&C histological diagnosis was analyzed. The WHO classification was used for diagnosis.

Results Sensitivity of ECT, TVS, ECT or TVS positive, ECT and TVS positive to diagnose atypical hyperplasia or worse were estimated at 80.7%, 86.8%, 97.4%, 70.2%, specificity at 94.7%, 20.4%, 17.5%, 88.4%, positive predictive value at 58.2%, 21.1%, 22.8%, 60.2%, negative predictive value at 94.4%, 86.1%, 96.4%, 92.2%, and accuracy at 84.6%, 33.7%, 33.5%, 84.7%, respectively.

Conclusion/Implications transvaginal ultrasonography and Endometrial cytology test may be regarded as a effective first-line method in endometrial pathology detection in postmenopausal women.

EP144/#485

PRELIMINARY STUDY OF CONFOCAL LASER ENDOMICROSCOPY FOR IN VITRO SPECIMENS OF THE ENDOMETRIUM

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Introduction This study observed and described the morphological characteristics of the endometrium of the resected uterus using confocal laser endomicroscopy. This included normal endometrium, non-atypical endometrial hyperplasia,

endometrial hyperplasia without atypia, and endometrial carcinoma, thereby laying a foundation for finding the precise localization and resection of endometrial lesions, given the feasibility of confocal laser endomicroscopy-assisted hysteroscopy.

Methods This prospective study included 74 patients who underwent hysterectomy. We used confocal laser endomicroscopy to observe the endometrium of resected uteruses and described the characteristics of endometrium in different states by comparing histopathological findings (primary objects). The secondary objects of observation were the myometrium, endocervical canal, and surface of the external os of the cervix.

Results A total of 74 patients : 19 with EC , 3 with atypical endometrial hyperplasia, 22 with benign diseases, 20 with CC, and 7 with OC and borderline tumor. The dynamic images of the endometrium were observed and recorded using pCLE. Considering histopathology as the gold standard, the diagnostic concordance rate of pCLE was 97.3% in patients with EC and precancerous lesions and 100% in EC.

Conclusion/Implications Confocal laser endomicroscopy provides real-time high-resolution images of the normal endometrium and endometrial lesions. Compared with histopathology, confocal laser endomicroscopy has high diagnostic accuracy and may become an auxiliary examination tool for hysteroscopy, as it is useful for early identification of endometrial lesions, real-time diagnosis of tumor, and detection of tumor boundaries for complete tumor resection. These findings can lay a foundation for the feasible use of fertility-sparing local excision of tumor lesions by hysteroscopy.

EP145/#573

NOMOGRAM PREDICTION MODEL OF SEVERE POSTOPERATIVE COMPLICATIONS AFTER CYTOREDUCTIVE SURGERY FOR ADVANCED OVARIAN CANCER

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Introduction It has been established that age, smoking, duration of operation, hypertension and other medical complications are independent risk factors for postoperative complications. Kumar et al. developed the first histogram prediction model for postoperative complications of ovarian cancer, which incorporated age, BMI, ASA score, preoperative albumin, stage, and surgical complexity to help clinicians and patients make patient-centered decisions about PDS. The purpose of this study was to analyze the influencing factors of postoperative complications, and then construct a nomogram prediction model for Clavien-Dindo grade 3–4 postoperative complications.

Methods 200 patients undergoing cytoreductive surgery from January 2019 to January 2023 were collected. They were divided into SPC group (n=57) and no SPC group (n=143). Univariate analysis and logistic regression analysis were used to analyze the risk factors, and a nomogram model was established to predict the occurrence of SPC in cytoreductive surgery patients.

Results Univariate analysis showed that there were significant differences in age, preoperative CA125, preoperative HE4, preoperative VEGF, preoperative tumor area score, tumor load score, albumin in the two groups (P<0.05). Multivariate