

node was successfully mapped. 7 (18.9%) patients had positive nodes. In 37 patients, no postoperative complications were detected. The final histology revealed: 31 (83.7%) patients had endometrioid adenocarcinoma, 6 (16.2%) had clear cell carcinoma.

Conclusion/Implications This study confirms the feasibility of the SLN procedure to assess recurrence risk in patients with early EC and the safety of sentinel lymph node detection.

EP166/#912

PREVALENCE OF PARAAORTIC LYMPH NODE METASTASIS IN PRESUMED CLINICAL STAGE II ENDOMETRIAL CANCER

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Introduction The aim of this study was to investigate the prevalence of paraaortic lymph node (LN) metastasis in patients with endometrial cancer, whose preoperative clinical stage was assumed to be FIGO stage I.

Methods We retrospectively analyzed the medical records of 462 patients who underwent surgical staging for endometrial cancer at Yonsei Cancer Center from July 2014 to April 2021. The study population consisted of patients with clinical presumed stage I endometrial cancer and who underwent nodal assessment, including both pelvic and paraaortic LNs.

Results A total of 311 patients met the eligibility criteria for the study. They were classified into low/intermediate and high-risk groups based on histology and myometrial invasion. Of the total patients, 66.9% were classified as low/intermediate risk group, while 33.1% were classified as high-risk group. After surgical staging, 28 patients (9.0%) were upstaged, and 12 patients (3.9%) were found to have LN metastasis. The incidence of LN metastasis was higher in the high-risk group (6.8%) than in the low/intermediate risk group (2.9%). However, the pattern of LN metastasis did not differ between the two groups (pelvic and paraaortic LN metastasis: 16.7% vs. 14.3%; pelvic only: 50% vs. 57.1%; paraaortic only: 33.3% vs. 28.6%, in the low/intermediate vs. high-risk group, respectively).

Conclusion/Implications The incidence of paraaortic LN metastasis in endometrial cancer patients presumed to be FIGO stage I by preoperative radiologic evaluation is low. However, our findings emphasize the importance of nodal assessment, particularly in high-risk groups, as a significant number of patients were upstaged and found to have LN metastasis.

EP167/#641

SENTINEL LYMPH NODE MAPPING USING INDOCYANINE GREEN DYE AND NEAR INFRARED FLUORESCENCE IMAGING METHOD FOR EARLY STAGE ENDOMETRIAL AND CERVICAL CANCER

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Introduction This study aimed to assess the feasibility and effectiveness of using ICG to detect SLNs & to investigate

how patient and tumor-related factors may influence this process in patients with endometrial and cervical cancer in low-middle income country like India.

Methods Patients with early stage cervical and endometrial cancer who underwent primary surgery with SLN identification using ICG Dye between July 2020 and March 2022 were analysed. Bilateral and overall SLN detection rates were calculated and univariate analysis was performed to estimate factors associated with SLN identification failure.

Results 49 patients with endometrial and cervical cancer were included in the study. Successful SLN identification was done in 46 out of 49 patients (93.87%). Unilateral and bilateral detection rate was 89.79% & 83.67% respectively. Sensitivity, Specificity, False Negative Rate, Accuracy of SLN identification using ICG dye was 83.33%, 95.34%, 16.67%, 93.87% respectively. Negative predictive value of this test was 97.6%. In our study, myometrial invasion in endometrial cancer ($p = 0.44$), LVI (with LVI $p = 0.12$), Grade of tumor (higher grade, $p = 0.26$), menopausal status (postmenopausal, $p = 0.09$), tumor size (>4 cm, $p = 0.62$), & Histopathology (adenocarcinoma, $p = 0.157$) have association with decrease SLNs identification, but it did not found statistically significance. Only BMI (>30) is found to be statistically significant to prove correlation between Obesity and SLN identification failure ($p = 0.025$).

Conclusion/Implications SLN identification using NIR fluorescence with ICG dye appears to be accurate method in our patients with early stage cervical or endometrial carcinoma. BMI is to be considered as an important factor for decrease SLN identification.

EP169/#411

MACHINE LEARNING METHOD FOR DIFFERENTIAL DIAGNOSIS AND PROGNOSIS PREDICTION FOR EARLY-STAGE UTERINE SARCOMA USING PREOPERATIVE BLOOD BIOMARKER AND AGE

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Introduction Preoperative differential diagnosis of clinical stage I uterine sarcoma (US) is essential for surgical intervention. Many studies have been done using CT or MRI imaging for machine learning prediction models but not with blood biomarkers. We aimed to develop a new model for diagnosis and prognosis prediction in the US using preoperative blood biomarkers and patient age.

Methods Overall, 143 US patients and 210 benign uterine myoma (UM) patients were randomly assigned to the 'training and test' cohort. 78(55%) cases were on clinical stage I. 30 preoperative peripheral blood parameters and patient's age was surveyed. The Random Forest (RF) classifier was used to construct an algorithm. The accuracy, the area under the receiver operating characteristic curve (AUC), and the variable

importance were calculated in the test cohort. The Ethics Committee approved this study.

Results The accuracy and AUC values for segregating stage I US from UM were 87% and 0.89, respectively. Variable important parameters for this classifier included age, CRP, and Hematocrit. Additionally, they were 85% and 0.95 in leiomyosarcoma, and 92% and 0.81 in ESS, respectively. Furthermore, unsupervised clustering analysis based on RF showed significant differences in two clusters in clinical stage I US with a median progression-free survival of 47 (3–115) vs. 13 (1–93) months ($P < 0.001$).

Conclusion/Implications The RF approach using common blood biomarkers and patient age can differentiate its malignancy and prognosis of US patients before primary intervention. This predictive model may provide a clinically useful approach to preoperative diagnosis distinct from conventional imaging techniques.

EP170/#355

MELK-MEDIATED PHOSPHORYLATION OF RB1 AND MAD2L1 PROMOTES CHROMOSOMAL INSTABILITY IN UTERINE LEIOMYOSARCOMA

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Introduction This study aimed to investigate the molecular pathogenesis of Uterine Leiomyosarcoma (ULMS), a highly lethal gynecologic malignancy with limited treatment options, and identify potential therapeutic strategies. ULMS is characterized by chromosomal instability (CIN), and its molecular mechanisms remain poorly understood.

Methods We conducted Whole Genome and Target Region Sequencing to investigate genomic alterations in ULMS. mRNA profiling analysis identified differential expression of genes involved in mitosis and nuclear division pathways, including MELK. In vitro and in vivo experiments assessed the effects of MELK overexpression on cellular proliferation, migration, and invasion.

Results Our study revealed that global chromosomal instability (CIN) was more prevalent than nucleotide alterations in ULMS. Additionally, mRNA profiling analysis showed differential expression of many genes involved in mitosis and nuclear division pathways, including MELK. We demonstrated that MELK promotes cellular proliferation, migration, and invasion in ULMS by phosphorylating MAD2L1 at the S170 site, causing its dissociation from CDC20 and subsequent conversion to its inactive form, O-MAD2, leading to uneven chromosomal distribution in daughter cells. MELK also promotes cell cycle progression by phosphorylating RB1 at the S252 site, leading to high cellularity and nuclear atypia formation in vitro and in vivo.

Conclusion/Implications Our study provides a comprehensive analysis of genomic alterations underlying CIN in ULMS and identifies MELK as a potential therapeutic target. The MELK-mediated molecular mechanism of CIN in ULMS provides insight into developing new therapies targeting this pathway. Further research is needed to develop effective therapeutic strategies for treating ULMS.

EP171/#796

THE NEED FOR LYMPH NODE EVALUATION IN LATE-STAGE UTERINE CARCINOSARCOMA – A MULTICENTER RETROSPECTIVE STUDY

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Introduction Uterine carcinosarcoma (UCS) is a highly aggressive, rare, biphasic tumor. Lymph node evaluation by either lymphadenectomy (LND) or sentinel lymph node biopsy (SLNB) is recommended. However, its value in late-stage disease remains unclear.

Methods Clinical data of patients with UCS from four different hospitals between February 2006 and December 2021 were reviewed. Patients with prior radiotherapy and/or chemotherapy were excluded. Progression-free survival (PFS) and overall survival (OS) were determined.

Results Among 103 UCS patients, 91 UCS patients had enough follow-up data. 47 (51.6%) were diagnosed at stage III-IV, among which 24 (51.1%) had LND. 16 patients (34.0%) had lymph node metastases (LNM). Patients undergoing LND was associated with longer median PFS (20.2 months vs. 5.7 months, $P = 0.009$) and OS (29.1 months vs. 14.1 months, $P < 0.009$) compared to those without LND. Multivariate analyses demonstrated that LND (hazard ratio, HR 0.447, 95% confidence interval (CI) 0.23 – 0.86, $P = 0.16$) and chemotherapy (HR 0.070, 95% CI 0.03 – 0.19, $P < 0.001$) were significant prognostic factors for PFS in late-stage patients. Additionally, LND (HR 0.133, 95% CI 0.04 – 0.50, $P = 0.003$) and chemotherapy (HR 0.102, 95% CI 0.03 – 0.33, $P < 0.001$) were independent significant prognostic factors for OS.

Conclusion/Implications Despite the use of adjuvant therapy, LND remains an integral part of the surgical treatment. Further prospective studies are needed to elucidate its value in late-stage disease.

EP172/#839

SEROUS ENDOMETRIAL INTRAEPITHELIAL CARCINOMA: AN OBSERVATIONAL STUDY

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Introduction Serous endometrial intraepithelial carcinoma is described as a malignant, superficial spreading lesion with risk of extrauterine spread at time of diagnosis and poor outcome. The main objective of this study was to evaluate the surgical management of patients with serous endometrial intraepithelial carcinoma and its impact on oncologic outcomes and complications.

Methods This Dutch observational retrospective cohort study evaluated all patients diagnosed with pure serous endometrial intraepithelial carcinoma in The Netherlands, from January 2012 to July 2020. The pathological examination was