Results A total of 163 patients had undergone primary surgery and 2 patients for recurrence. The audit showed that the target for categories of general indicators and pre-operative work-up were met. There was lack in compliance of the intra-operative management, with only 34% among presumed early-stage disease undergoing successful MIS, 31% undergoing sentinel lymph node procedure and 53% among them being done using indocyanine green with 18% bilateral mapping rate. None of the patients had complete molecular classification. Compliance of adjuvant treatment provided was adequate. Minimal required elements in surgical reports were in 81% and pathological reports in 91% of patients falling short of the set target.

Conclusions The audit helped us identify the need to increase MIS, use and adapt sentinel lymph node procedure with ICG dye more aggressively. There is also a need for improvement in documentation of pertinent information on surgical and pathology reporting. Molecular classification should be routinely incorporated into the diagnostic algorithm to aid in adjuvant therapy.

Objectives Lymph node assessment provides information that may influence decisions regarding adjuvant treatment in endometrial cancer patients. However, systematic lymphadenectomy may cause significant morbidity. In recent years, the use of sentinel lymph node (SLN) mapping with indocyanine green (ICG) has been accepted to avoid the morbidity of lymphadenectomy. We aimed to assess the diagnostic accuracy of a novel injection technique in detection of sentinel lymph nodes in women with endometrial cancer.

Methods A total of 214 patients with endometrial cancer underwent sentinel lymph node mapping using ICG. ICG was injected into the uterine cervix at the 3 and 9 o’clock positions, submucosally and to the level of junction between uterine cervix and isthmus in group 1 (n=107) and to the uterine cervix at the 3 and 9 o’clock positions according to conventional Memorial Sloan Kettering algorithm in group 2 (n=107). All the patients in group 2 selected by propensity matching. None of the patients underwent a re-injection neither in group 1 nor group 2.

Results There was no significant difference between baseline characteristics of two groups. The groups were similar in terms of stage, type of tumor, BMI and lymphovascular characteristics of two groups. The groups were similar in terms of stage, type of tumor, BMI and lymphovascular invasion. The bilateral detection rates were 94.4% and 76.6% in group 1 and group 2, respectively (p=0.003). No lymph node or lymphatic vessels were identified in only one patient with a history of chronic lymphocytic leukemia in group 1.

Conclusions Deep cervical injection technique significantly increases bilateral SLN detection rate in endometrial cancer patients.
**Objectives** To identify trends associated with incidence of high risk endometrial cancers in native versus US Asians.

**Methods** Data were obtained from the United States Cancer Statistics and Republic of China Cancer Registry from 2001–2017. We defined high risk cancers as grade 3 endometrial (G3E), serous, clear cell, and carcinosarcoma. SEER*Stat 8.3.9.2 and Joinpoint regression program 4.9.0.0 were used to calculate trends.

**Results** Of 55,031 endometrial cancer patients, 28,204 (51%) were US and 26,827 (49%) were native Asians. In subset, serous cancer incidence (per 100,000) in 2017 was highest in US Asians (serous 1.25, G3E 1.15, carcinosarcoma 0.82) whereas G3E was over four fold higher than other cells types in native Asians (G3E 2.63, serous 0.64, carcinosarcoma 0.51). Over the 17 year study period, the incidence of high risk cancers increased annually at 2.3% in US Asians (serous increase: 6.3%) compared to 21.9% in native Asians (G3E increase: 14.8%) (p<0.001). In analyzing mortality trends, US Asians had a higher annual increase in mortality compared to native Asians (+2.11% vs -2.99%). US Asians had an over two fold higher risk of death for ages 70+ at 22.9 (per 100,000) compared to 10.6 in native Asians.

**Conclusions** The incidence for high risk uterine cancer is increasing significantly more in the Republic of China vs. US. However, mortality rates are higher in the US. Further research is needed to better understand the social determinants and regional differences that may contribute to these trends.

**EP157/#822** ABX-1431 INHIBITS THE DEVELOPMENT OF ENDOMETRIAL ADENOCARCINOMA AND REVERSES PROGESTERONE RESISTANCE BY REGULATING THE MGLL-ROS/AKR1C1 PATHWAY

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**Objectives** Progesterone resistance of endometrial adenocarcinoma (EAC) is a huge challenge, and it is urgent to propose a potential target to clarify the mechanism of progesterone resistance so as to inhibit the development of swollen EAC and progesterone resistance. As an important factor involved in lipid mobilization, MGLL is overexpressed in a variety of tumors, the aim of this study was to clarify the role of MGLL in the development of endometrial cancer and the process of progesterone resistance, preliminarily reveal its mechanism, and verify the anti-tumor effect of MGLL inhibitors.

**Methods** Expression of gene was performed by IHC, Western blot and RT-qPCR assays. Bioinformatic analysis was performed in R/R studio. Proliferative activity was measured by MTT, EDU and colony formation assays. Cell apoptosis analysis were performed by flow cytometry. A xenograft tumor assay was performed in vivo.

**Results** First, we found that MGLL is key gene high expressed and correlated to the progesterone resistance in EAC. MGLL promoted the proliferation, enhanced the invasion and migration and inhibits the apoptosis of EAC cells. Subsequently, we verified that MGLL overexpressed inhibits the effect of progesterone to EAC cells and MGLL knockdown renders EAC cells more sensitive to progesterone. Based on the above, we tentatively revealed the mechanism, that is MGLL regulated AKR1C1 by mediating the generation of ROS to induce the progesterone resistance in EAC. Finally, we clarified that ABX-1431 inhibited the growth of EAC and reversed progesterone resistance by inhibiting the expression of MGLL.

**Conclusions** ABX-1431 inhibits the development of endometrial adenocarcinoma and reverses progesterone resistance by regulating the MGLL-ROS/AKR1C1 pathway.

**EP158/#254** THE EXPRESSION AND AMPLIFICATION OF HER2/NEU HAS A SIGNIFICANT IMPACT ON OVERALL SURVIVAL IN KOREAN PATIENTS WITH ENDOMETRIAL CARCINOMAS

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**Objectives** The purpose of this study was to analyze (Suppl 3) the protein overexpression and gene amplification of HER2/neu in endometrial carcinoma (EC) and to evaluate its role as a prognostic factor in Korean women.

**Methods** The tissue microarray was constructed of 191 patients with EC of diverse histologic type and tested. HER2/neu expression and amplification status were analyzed using immunohistochemistry (IHC) and silver in situ hybridization (SISH), respectively. All cases had been treated and followed up at a single tertiary medical center in Seoul, Korea between July 2009 and October 2020.

**Results** According to the histology type, 191 EC patients consisted of 157 endometrioid carcinoma, nine uterine serous papillary carcinoma (USPC), one clear cell carcinoma, one squamous cell carcinoma, eight mixed, and 15 uterine carcinosarcoma (UC). HER2/neu protein overexpression was observed in eight of 191 (4.2%) EC. The overexpression rates of USPC, UC and endometrioid carcinomas were 33.3%, 26.6% and 0.6%, respectively. HER2/neu protein overexpression was significant in USPC (P < 0.000) and associated with a poor overall survival (OS) (P < 0.000). HER2/neu gene amplification was confirmed in seven of 184 (3.8%), except for seven cases that were not applied, which was detected in three cases of USPC and four cases of UC. OS was significantly shorter in patients who showed amplification of HER2/neu (P < 0.000).

**Conclusions** HER2/neu protein overexpression and gene amplification in Korean women were significantly correlated with a worse OS. HER2/neu can be considered as an important predictor of survival outcome in EC patients.