Methodology Endometrial tumour was obtained from 21 patients with endometrial cancer and processed into explants. EC-PDEs were then cultured at the air-liquid interface for up to 24 h followed by a further 24 h treatment with Carboplatin and Paclitaxel (CP) or Pembrolizumab and then processed into histology slides. Multiplexed immunofluorescence for Ki67 (proliferation marker), cPARP (apoptosis marker) and CAM 5.2 (tumour mask) was performed for viability studies. Images were then analysed with quantitation of biomarker expression and necrosis area.

Results EC-PDEs maintained the histological architecture of the tumour and surrounding TME and remained viable for up to 48 h. Differential drug-responses were detected to single- and dual-agent chemotherapy with positive correlations identified between cell-death and advanced stage ($r^2=0.21$, $p=0.04$), grade ($r^2=0.28$, $p=0.01$) and ESGO risk-categorisation of disease ($r^2=0.49$, $p<0.01$). Cell-death-responses were identified in 61.9% of EC-PDEs following Pembrolizumab-treatment. A third (33.3%) of EC-PDEs responded to both chemotherapy and immunotherapy, 28.5% responded to Pembrolizumab but were resistant to CP, 19% responded to CP but were resistant to Pembrolizumab and 19% of EC-PDEs were resistant to both CP and Pembrolizumab.

Conclusion EC-PDEs are a rapid, low-cost pre-clinical model which offers the potential for rapid, personalised pre-clinical drug-response testing. Drug-resistance can be identified in EC-PDEs and EC-PDEs could be used in future to explore the biological effects of immunotherapy and to evaluate predictors of drug response and mechanisms of drug-resistance.

Introduction/Background Clear cell carcinoma of the endometrium is an uncommon form of endometrial cancer. It accounts for 0.8% to 6% of all uterine malignancies. It arises from the Mullerian epithelium.

Methodology We retrospectively analyzed clinical data of 6 patients with clear cell carcinoma of the endometrium who were treated in our institute during the last decade.

Results The median age was 60. Four of our patients had a history of diabetes and hypertension. Metrorrhagia was the most common symptom. Prior to therapy, clinical staging was performed on each patient. Treatment was based on surgery, radiation, brachytherapy, and chemotherapy. A total of five cases had surgery at the beginning. Colpohysterectomy with bilateral adnexitomy and bilateral pelvic lymphadenectomy were performed in all cases. Three patients had lumbar aortic lymph node dissection. Only one patient with stage IVB cancer had a mesenteric nodule biopsy and adnexitomy. In four cases, radiation was recommended, but one patient was rejected because of her weight. Four patients received brachytherapy. Adjuvant chemotherapy was given to four patients. After a median follow up of 32 months one patient presented vaginal recurrence, while two had pelvic relapse and one had abdominal recurrence. The mean time to recurrence was 6 months (2 to 11 months) after surgery. The patient with vaginal recurrence was treated with surgical excision and brachytherapy. She was recurrence free at last follow up. Two patients with pelvic recurrences progressed despite a surgical-radiation therapy and chemotherapy. The other patient was given palliative treatment.

Conclusion Endometrial clear cell carcinoma is thought to be more aggressive than endometrial adenocarcinoma. It is less sensitive to treatment and has a higher risk of recurrence.

Introduction/Background The aim of this study was to analyze the surgeons’ learning process for indocyanine green (ICG) mapped sentinel lymph-node biopsy (SLB) in endometrial cancer (EC) patients.

Methodology Prospective study was conducted in a centre with no previous experience on ICG mapped SLB. 190 EC patients underwent laparoscopic hysterectomy with SLB (and additional lymphonodectomy in intermediate and high-risk groups). All surgeries were performed by 8 oncogynaecologists. The tabular cumulative sum (CUSUM) charts with sequential probability ratio test (SPRT) limits were plotted for each surgeon to evaluate the bilateral SL identification (target rate 75%) and removal of SLs containing lymphatic tissue (target rate 90%).

Results At least one SL per hemipelvis was mapped in 89.5% (170/190) of the patients. Bilateral mapping rate was 70.5% (134/190). The cumulative successful bilateral mapping rate tends to improve with the experience gained performing the SLB (Spearman’s rho 0.728; $p<0.001$). The CUSUM plot for bilateral SL mapping showed that the primary SPRT limit was crossed only by one surgeon after 13 consecutive, successfully bilaterally mapped SLB. The result was achieved after 30 SLB procedures. 305 SL samples were mapped and removed. After final histological evaluation in 10.5% (32/305) no lymphatic tissue was found. The overall rate of lymphatic-tissue containing SL samples was 89.5%. The CUSUM plotted for removal of SLs containing lymphatic tissue showed that SPRT limit was crossed by 5 surgeons after 6 consecutive lymphatic tissue containing SL specimens. Other two surgeons crossed the SPRT limit after the removal of 11 and 20 SL specimens, while one surgeon reached the limit after removing 71 SL specimens.

Conclusion The CUSUM plots indicates that bilateral mapping of SL in endometrial cancer patients was achieved after 30 SLB procedures performed. However, the successful identification and removal of lymphatic tissue containing SL specimens was achieved after 6 consecutive procedures.