Abstracts

Poster rounds: with the professors: Group E3

**37/#877** HORMONAL BIOMARKERS REMAIN PROGNOSTIC RELEVANT WITHIN THE MOLECULAR CLASSIFICATION IN ENDOMETRIAL CANCER

**1,2Stephanie Vrede**, **1,3Willem Jan Weelden**, **4Hans Bulten**, **5Jutta Huiva**, **6Xavier Matias-Guiu**, **6Antonio Gil-Moreno**, **7Jasmijn Asberger**, **8Sanne Sweegers**, **2Louis Putten**, **9Heidi Kisters-Vandevelde**, **10Astrid Eijkelenboom**, **11Casper Reijnen**, **12Eva Colas**, **13Vit Weinberger**, **14Marc Snijders**, **12Roy Kreutwagen**, **1Johanna Pijnenborg**, **1Canisius-Wilhelmina ziekenhuis, Obstetrics and Gynecology, Nijmegen, Netherlands; 2Radboud university medical center, Obstetrics and Gynecology, Nijmegen, Netherlands; 3Radboud university medical center, Pathology, Nijmegen, Netherlands; 4University of Turk, Turk University Hospital, Department of Pathology, Turk, Finland; 5Hospital Universitari Amat de Vilanova, Pathology and Molecular Genetics and Research Laboratory, Lleida, Spain; 6Vall Hebron University Hospital, Gynaecology, Barcelona, Spain; 7Vall Hebron University Hospital, Pathology, Barcelona, Spain; 8Medical Center – University of Freiburg, Obstetrics and Gynecology, Freiburg, Germany; 9Canisius-Wilhelmina ziekenhuis, Pathology, Nijmegen, Netherlands; 10Radboud university medical center, Radiation Oncology, Nijmegen, Netherlands; 11Vall Hebron institute of research, Universitat Autònoma de Barcelona, Biomedical Research Group In Gynecology, Barcelona, Spain; 12University Hospital in Brno and Masaryk University, Obstetrics and Gynecology, Brno, Czech Republic; 13Maastricht University Medical Center (MUMC), Department of Obstetrics and Gynecology, Maastricht, Netherlands; 14Radboud university medical center, Department of Obstetrics and Gynecology, Nijmegen, Netherlands

**Objectives** The relevance of hormonal biomarkers in endometrial cancer (EC) has been well-established. A revised cut-off for estrogen receptor/progesterone receptor (ER/PR) expression into three subgroups was shown to improve prognostication, however, this has not been related to the four molecular subgroups. Therefore, we aimed to investigate the prognostic relevance of this three-tiered ER/PR model within the molecular subgroups in EC.

**Methods** A retrospective multicenter study within the European Network for Individualized Treatment (ENITEC) network was performed. ER/PR expression was classified into: high-risk (0–10%), intermediate-risk (20–80%) and low-risk (90–100%). The molecular subgroups were conducted based on Next Generation Sequencing, allocating patients into polymerase epsilon (POLE)-mutant, microsatellite instable (MSI), tumor protein (TP53)-mutated and no-specific molecular profile (NSMP).

**Results** A total of 387 patients were included with a median follow-up of 5.2-years. There were 8.3% (n=32) POLE-mutant, 22.5% (n=87) MSI, 13.7% (n=53) TP53-mutated and 55.6% (n=215) NSMP tumors. Among all molecular subgroups, patients with ER/PR 0–10% expression had significantly worse disease-specific survival (DSS) compared to ER/PR 20–80% or 90–100%. Interestingly within TP53-mutated, patients with ER/PR 90–100% expression showed an excellent DSS (100%) compared to ER/PR 20–80% and 0–10% (figure 1). In multivariable analyses ER/PR 0–10%, TP53-mutated, lymphovascular space invasion and FIGO stage remained independent prognostic factors for reduced DSS (respectively, HR 2.59 (95%-CI 1.32–5.03) P=0.005, HR 2.71 (95%-CI 1.35–5.43) P=0.005, HR 2.27 (95%-CI 1.15–4.45) P=0.018, HR 4.42 (95%-CI 2.16–9.01) P<0.001).

**Conclusions** ER/PR expression remains prognostic relevant in all molecular subgroups, strengthened by the three-tiered cut-off. We therefore recommend routine evaluation of ER/PR expression in clinical practice.

**10.1136/ijgc-2022-igcs.81**

---

**38/#924** IMMUNOMETABOLIC CHANGES DURING WEIGHT LOSS INDUCE TUMOR IMMUNOGENICITY RESULTING IN TUMOR REGRESSION

**1Martin Brennan**, **1Lydia Dyck**, **1Hannah Prendeville**, **2Donal Brennan**, **1Lydia Lynch**, **3Trinity College Dublin, School of Biochemistry and Immunology, Dublin, Ireland; 4University College Dublin Gynaecological Oncology Group, UCD School of Medicine, Mater Hospital, Dublin, Ireland

**Objectives** Endometrial cancer is the most common cancer of the female reproductive tract, and obesity is the greatest risk factor for endometrial cancer. We have recently found that in addition to enhancing tumor growth, obesity also impairs the anti-tumor immune response. Here, we investigated the effect of weight loss on the immune landscape of the tumor, during an interventional treatment for endometrial cancer in obesity patients.

**Methods** Metabolic surgery was performed on 12 patients deemed suitable (>18 years, BMI of 40 kg/m2 and diagnosis of grade 1 or 2 endometrial adenocarcinoma). Bulk-RNA sequencing of tumor biopsies was performed before and after surgery/weight loss. Formalin-fixed, paraffin-embedded endometrial tumor biopsies were processed for immunohistochemical staining of PD-L1, CD8 and CD3.

**Results** Of the 12 patients, all had significant weight loss 6 months post-surgery, with an average of 24% body fat loss. Complete pathological response was observed in 9 out of 12 patients, stable disease in 2 patients and progressive disease in one patient, at 6 months post-metabolic surgery. Tumor biopsy sequencing before and after weight loss shows a significant increase in HLA class I and class II genes. Immunostaining showed that weight loss increased CD8 T-cell infiltration and PD-L1 expression in endometrial tumors.

**Conclusions** Our results demonstrate the important role of weight loss in directing anti-tumor immunity in obese endometrial cancer patients by creating a more immunogenic tumor environment through upregulation of HLA.

**10.1136/ijgc-2022-igcs.82**

---

**Abstract 37/#877 Figure 1** Disease specific survival of the ER/PR subgroups within TP53-mutated