the prevalence and prognosis of different molecular subtypes of HGSOC.

**Methods** We retrieved matching data of 455 cases of stage II-IV HGSOC from TCGA and categorized into 4 clusters based first on molecular subtypes (differentiated, immunoreactive, mesenchymal and proliferative) and then subdivided based on obesity and lipid metabolism gene pattern expression (CD36/TGFß high vs low). Proportion and survival analyses were carried out. Chi square, Kaplan Meier were used to assess statistical significance.

**Results** Mesenchymal subtype was significantly more prevalent among women expressing CD36/TGFß high (51,2% vs 6,9%, p<0.0001). Proliferative and differentiated were more prevalent in women expressing CD36/TGFß low (71,3% vs 27,7%, p<0.0001). The 5-year overall survival was significantly different between subgroups with the immunoreactive subtype expressing CD36/TFGß low experiencing the best outcome compared to the rest (median 67,7 vs 44,1 months, log-rank p<0.01). Cox analysis (including clustering, age, cytoreduction and therapeutic response) confirmed the immunoreactive CD36/TGß/low as independent prognostic factor.

**Conclusions** Our results confirm the importance of immune response and the negative impact that obesity and lipid metabolism alterations have in defining prognosis in HGSOC (supported by Fondecyt 1160800).

# Plenary 2

## IGCS19-0362

### 6 INTERPRETING IMMUNE INFILTRATES AND HORMONE BIOMARKERS IN YOUNG WOMEN WITH ENDOMETRIAL CARCINOMA (EC) THROUGH A MODER LENS (POST-TCGA) OF MOLECULAR CLASSIFICATION

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**Objectives** Approximately 15% of ECs are diagnosed in women before the natural age of menopause. Fertility-sparing conservative management options are increasingly utilized, however biomarkers to inform prognosis or direct therapy are lacking. We sought to determine the value of additional immunohistochemical biomarkers in young women with EC in the context of modern TCGA-based molecular classification.

**Methods** Allred scores for estrogen/progesterone/androgen receptor and Ki67 in addition to immune characterization measuring stromal and epithelial expression of CD3/CD8/CD79a/CD138/PD1 and $TIL^{high}$ vs. $TIL^{low}$ clusters was performed in a cohort of previously characterized(n=257) young women (<50yo) with EC. Testing for association of biomarkers with clinicopathological parameters, ProMisE molecular subtype (mismatch repair deficient (MMRd), *POLE* mutated (POLE), p53wildtype (p53wt) and p53abnormal (p53abn)) and outcomes was performed.

**Results** Young women had a high proportion of immune-rich ECs: 80% TILhigh compared with 60% TILhigh in non-age stratified cohorts. Expression of all immune biomarkers was enriched within POLE and MMRd subtypes. Within MMRd and p53wt ECs TILhigh immune cluster was associated with improved overall-(OS)and disease-specific survival (DSS)(p<0.05 for all). High ER and PR expression was associated with low-grade ECs, and increased PD1 expression. A trend (LRT p-value 0.1) towards improved OS(HR 0.4) and DSS(HR 0.273) in high PR-expression ECs was observed. Inconsistencies in progesterone treatment (dose, duration) precluded our ability to make firm conclusions on PR thresholds and efficacy. In multivariable analysis only ProMisE subtype showed independent prognostic significance.

**Conclusions** Molecular classification with additional selective biomarker testing can provide additional prognostic information and may help stratify young women with ECs for targeted therapies.

## IGCS19-0185

### 7 EFFECT OF MEGESTROL ACETATE PLUS METFORMIN AS FERTILITY-SPARING TREATMENT FOR PATIENTS WITH ATYPICAL ENDOMETRIAL HYPERPLASIA AND WELL-DIFFERENTIATED ENDOMETRIAL CANCER. A RANDOMIZED CONTROLLED TRIAL

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**Objectives** The clinical remission (CR) rate of Megestrol acetate (MA) as fertility-sparing treatment was still not optimal. This study was to access whether MA plus metformin could lead to better CR rate for patients with atypical endometrial hyperplasia (AEH) and well-differentiated endometrial cancer (EC).

**Methods** This was a randomized, single-center, open-label and controlled trial (July 2013-December 2017). Patients were randomized to receive MA (160mg, orally, daily) or MA (160mg, orally, daily) plus metformin (500mg, orally, three times a day), then underwent hysteroscopy every 3–4 months. The primary efficacy parameter was the CR rates at 16th and 30th weeks of treatment (16w-CR rate and 30w-CR rate); the secondary efficacy parameter was rates of recurrence, pregnancy and live-birth.

**Results** Totally 150 patients received MA (n=74, 62 AEH and 12 EC) or MA/metformin (n=76, 61 AEH and 15 EC). The 16w-CR rates were 34.3% (23/67) and 20.7% (12/58) in MA/metformin- and MA-treated women (p=0.091). However, among 102 AEH patients, MA/