Methods Mononuclear cells (PBMCs) obtained from the peripheral blood and the ovarian tissue of patients suffering from ovarian pathology were isolated by density gradient centrifugation. The control group consisted of patients who had undergone surgery for unexplained infertility. The percentage of Treg and Th17 producing IL-21+ or IL-22+ lymphocytes in peripheral blood and tissue was assessed using the flow cytometry method according to the manufacturer's instructions. The ROMA index was calculated by way of levels of HE4 and CA125 in serum.
Results A negative correlation was also found in the percentage of CD4+/IL-21+ in the peripheral blood and the amount of Treg infiltrating normal ovarian tissue. Moreover, we observed a relationship between the ROMA percentage in the serum and Treg in the peripheral blood of women suffering from benign ovarian tumors.
Conclusions In patients with benign tumors, we found for the first time, significant negative correlation between percentages of circulating Treg cells in the peripheral blood and with ROMA assessment in the serum. This result could be explained by the negative influence of Treg on inflammation and secondary on malignancy induced by chronic inflammation. Furthermore, the imbalance in Treg percentage in normal ovarian tissue of patients suffering from unexplained infertility, could induced immunotolerance, and hence, infertility

IGCS19-0585

307 ANALYSIS OF TH17 CELLS IN OVARIAN CANCER IN TERMS OF THEIR CLINICAL SIGNIFICANCE

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10.1136/ijgc-2019-IGCS.307

Objectives The aim of the study was evaluation of Th17 cells in patients with different clinicalmanifestation of ovarian cancer (OC) in three environment: peripheral blood (PB),peritoneal fluid (PF) and tissue (TT), and establish their role in OC pathogenesis.
Methods The study included 59 patients with OC, 35 women with benign ovarian tumors and10 healthy donors. The percentage of Th17 cells was analyzed by flowcytometry.Th17 cells were analyzed as percentage of CD4 + with intracellular-expression of IL-17A.
Results The highest percentage of Th17 cells was detected among tumor infiltrating CD4 +lymphocytes and it was significantly higher (p=0.001) than in PB. The percentage ofTh17 cells in both, PB and PF of patients with OC was lower (p<0.0001) than inbenign tumors group. There was no significant differences in the percentage of Th17cells in PB, PF and TT in relation to FIGO stages, histopathological grading, Kurmanand Shih's type. There was no relationship between the percentage of Th17 cells inPB, PF, TT and patients survival.
Conclusions 1. There are differences in the percentage and distribution of Th17 cells in thePB, PF and tumor tissue of OC patients.2. Lower percentage of Th17 cells in the PB and PF of OC patients incomparison to benign tumors may promote evade host immune responseby cancer cells.3. There were no significant differences in the percentage of Th17 cells in OCpatients depending on FIGO stage, histological grade, Kurman and Shih'stype and five-years survival rate of patients.

IGCS19-0279

308 DO OVARIAN CANCER PATIENTS WITH PRIMARY OR SECONDARY PLATINUM RESISTANCE HAVE SIMILAR RESPONSE TO SUBSEQUENT CHEMOTHERAPY – RETROSPECTIVE COHORT STUDY

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10.1136/ijgc-2019-IGCS.308

Objectives Response to platinum-based chemotherapy is considered to be one of the most important prognostic factors in recurrent ovarian cancer. Women with primary platinum resistance (PPR) have poor prognosis. Less is known regarding outcome in patients with secondary, acquired platinum resistance (SPR).

We evaluated response to treatment and survival in patients with PPR compared to patients with SPR.
Methods This retrospective cohort study included patients treated for ovarian, tubal and primary peritoneal cancer in Wolfson Medical Center during the years 2000–2015. The patients were categorized as PPR (disease recurrence less than 6 months after completing first line platinum based chemotherapy) and SPR (previously platinum sensitive disease that developed platinum resistance on subsequent treatments).
Results 118 patients were included in this study, 60 had PPR and 58 developed SPR. The SPR women had significantly higher rate of optimal debulking during their upfront and interval operations, significantly lower CA-125 levels during their primary treatment and significantly higher complete and partial response rate to primary chemotherapy. Nevertheless, once platinum resistance appeared, no significant difference in survival was observed between the two groups. The median PFS was 2 month in the PPR group and 0.83 month in the SPR group. Also, no significant difference was found in OS, median of 17.63 month in the PPR and 20.26 month in the SPR group.
Conclusions Platinum resistance is an important prognostic factor in women with ovarian cancer. Even with good response to primary surgery and chemotherapy, once platinum resistance appears the disease course is similar to patients with primary resistance.

IGCS19-0648

309 RETROPERITONEAL LYMPH NODE RECURRENCE OF EPITHELIAL OVARIAN CANCER: PROGNOSTIC FACTORS AND TREATMENT OUTCOME

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10.1136/ijgc-2019-IGCS.309

Objectives To compare the treatment outcome and survival of patients with recurrence in retroperitoneal lymph nodes versus women with intraperitoneal recurrence.

Methods This retrospective cohort study included patients treated for ovarian, tubal and primary peritoneal cancer in Wolfson Medical Center during the years 2000–2015. We classified three groups according to the site of recurrence: intraperitoneal only, retroperitoneal lymph nodes only, and both. Response to treatment was assessed by the RECIST criteria. Progression free survival (PFS), post-recurrence survival (PRS) and overall survival (OS) were estimated with the Kaplan-Meier method and compared with Log-rank test. The association between clinical variables and survival was established by Cox proportional hazards model.

Results Out of 135 patients in our cohort, 66 were diagnosed with intraperitoneal recurrence, 30 with retroperitoneal lymph node recurrence and 39 with combined recurrence. The clinical, pathological and surgical characteristics were similar among all groups, besides CA-125, which was significantly lower in the retroperitoneal recurrence group at diagnosis, end of treatment and recurrence. The median follow up period was 45.8 months. OS and PRS were significantly higher in the retroperitoneal recurrence group compared to the intraperitoneal and combined recurrence groups. (OS – 93.07 vs. 47.9 and 41.7 months, respectively, p=0.000, PRS – 68.57 vs. 29.67 and 19.7 months, respectively, p=0.000). In multivariate analysis, retroperitoneal recurrence was found to be an independent prognostic factor for survival.

Conclusions The site of recurrence has significant prognostic value regarding PRS and OS. Patients with retroperitoneal lymph node recurrence only, have a favorable prognosis with estimated survival longer than 5 years.

IGCS19-0710

310 CHEMOTHERAPY REDUCES PAR GLYCOHYDROLASE (PARG) EXPRESSION IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENTS

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10.1136/ijgc-2019-IGCS.310

Objectives Evaluate the effect of chemotherapy treatment on PAR glycohydrolase (PARG), other member of poly(ADP-ribose) metabolism, in high-grade serous ovarian cancer patients (HGSOC).

Methods Two HGSOC cohorts were evaluated by immunohistochemistry: 54 chemo-naïve HGSOC patients (45 HGSOC, 9 borderline, 4 normal tissue) and 53 HGSOC chemo-treated patients (44 HGSOC, 9 borderline, 7 normal tissue). In addition, we used *in silico* analysis to evaluate the effect of PARG mRNA expression in ovarian cancer and its relation with patient outcome.

Results Our results showed that chemo-naïve patients have significant higher levels of PARG expression compared to borderline and normal (62.2%, 44.4% and 0% respectively). Interestingly, these levels were reduced in HGSOC patient samples that have received chemotherapy (45.44%, 44%, 0%, respectively, p<0.03). Indeed, this demonstrated that chemotherapy induces a reduction in PARG expression to levels equal to the borderline tumors. Furthermore, we found a dramatic re-localization of PARG protein to the cytoplasm in chemo-treated patients (100%) compared with chemo-naïve HGSOC samples that were localized in the nucleus (80%, P<0.05).*In silico* analysis of 1500 ovarian cancer patients revealed that PARG is up-regulated in ovarian cancer in comparison with normal tissue and highly express in advance-metastatic HGSOC. Moreover, its expression in advance disease was associated with shorter overall survival.

Conclusions Our results showed that chemotherapy decreased PARG expression and re-localized it into the cytoplasm. Moreover, our findings highlights the possible use of PARG inhibitors as an adjuvant therapy to treat recurrent ovarian cancer together with chemotherapy and other new-targeted drugs such as PARP inhibitors.

IGCS19-0612

311 COMBINATION OF OVARIAN ENDOMETRIOID CARCINOMA AND YOLK SAC TUMOR IN POSTMENOPAUSAL WOMEN: A CASE REPORT

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10.1136/ijgc-2019-IGCS.311

Objectives Little is known about Ovarian Yolk Sac Tumors (YSTs) in postmenopausal female.

To enhance scientific knowledge about this tumor, we describe a 64 years old woman with YSTs coexisting with ovarian epithelial tumor, focusing on diagnosis and treatment.

Methods Literature review and medical record.

Results YSTs represent approximately 20% of all malignant germ cell tumors of the ovary and typically occur in young women. We describe a 64-year-old postmenopausal female, with an ovarian endometrioid carcinoma (FIGO IA/G3). The patient was started on adjuvant chemotherapy with 6 cycles of carboplatin and paclitaxel. After adjuvant chemotherapy, her scans reveled progressive disease in the liver which biopsy showed poor differentiated epithelioid neoplasia positive for SALL4, indicating a YSTs. We started on chemotherapy with BEP with 3 cycles until present date, with clinical improvement and decrease of tumor markers.

Conclusions Germinal cell neoplasm arise from an ovarian epithelial neoplasm is an extremely rare presentation in postmenopausal woman, with aggressive behavior. The recognition of specific subtype is essential to determine treatment decisions and prognosis.