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.

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

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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.

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

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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.