reduced hypoxia and a decrease in regulatory T cells. However, bevacizumab exposure increased the influx of PDGFC-expressing macrophages capable to bypass VEGFA-dependent angiogenesis.

417 THE PROGNOSTIC VALUE OF THE PERITONEAL CANCER INDEX (PCI) AFTER SUGARBAKER FOR THE EFFECT OF NEOADJUVANT CHEMOTHERAPY IN ADVANCED OVARIAN CANCER

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Introduction/Background* Advanced epithelial ovarian cancer (EOC) is a severe disease with high mortality rate. Achieving complete cytoreduction (R=0; CCR) is crucial for the patient's prognosis. Extensive peritoneal carcinomatosis is often the limiting factor for achieving CCR in EOC and therefore is the deciding factor for therapy planning. The Peritoneal Cancer Index (PCI) after Sugarbaker has been an established tool to describe the extension of the disease. A patient presenting a PCI < 25 is considered to be operable¹. We examined the predictive power of various markers (CA-125, CT-scans, PCI) for achieving complete cytoreduction after neoadjuvant chemotherapy (NACT).

Methodology The data of 23 patients treated in our hospital between 01/2015 und 12/2020 with inoperable EOC were retrospectively analyzed. Clinical and radiological data were collected and statistically analysed (univariate analysis: Chi-Square Tests, Mann-Whitney U test and multivariate analysis: Binary logistic regression, ROC-curve).

Result(s)* The reduction of the PCI itself after neoadjuvant chemotherapy showed to be a powerful predictor for complete cytoreduction (CCR), but it also showed to be significant even if the different PCI baseline values were considered. The reduction of the initial PCI score by minimum 8.5 points was a better predictor for CCR than the PCI < 25.

Neither the RECIST analysis² of the CT-scans nor the reduction of the tumor marker CA-125 proved to be a significant predictor.

Conclusion* Whether CCR can be achieved during debulking surgery, is best predicted by the reduction of the PCI. A combination of the three markers might be even more powerful. Larger studies are needed to confirm this.

451 PATIENT CHARACTERISTICS AND TREATMENT PATTERNS BY BRCA/ATM MUTATION STATUS IN OVARIAN CANCER PATIENTS: AN EHR ANALYSIS IN THE PRIOR-2 STUDY

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Introduction/Background* Previous studies have reported median progression-free survival (PFS) of 12-18 months in ovarian cancer (OC). Testing for BRCA1/2 or ATM gene

Abstract 451 Table 1 Treatments received and transition rates through lines of therapy or death

Landmark	6 Months		12 Months		24 Months	
	Yes	No	Yes	No	Yes	No
BRCA/ATM Mutational Status						
Number Treated	203	221	237	253	264	282
Received PARP Inhibitor (any line),%	25.6	6.3	43.5	17.4	51.5	24.5
Received Bevacizumab (any line),%	14.8	17.2	21.1	29.6	25.4	34.4
Transitions through lines of therapy, %						
receiving/completed 2L treatment or died	31.5	21.3	54.4	46.6	63.6	63.5
receiving/completed 3L treatment or died	4.9	5.0	23.2	15.0	39.8	32.6

mutations in OC can inform treatment choice. Data on the treatment experience of patients with OC by BRCA/ATM mutational status in the United States (US) is needed.

Methodology We identified female adults, ≥18 years, with OC from Optum's de-identified electronic health record (EHR) database (1/1/2017 – 6/30/2020; N=16.6M female lives). Index date was first diagnosis of OC. Patients were observed for 12-months pre-index to capture baseline demographic, clinical and prognostic characteristics. Treatment with platinum-taxane CT, PARPi, bevacizumab and transition rates through lines of therapy or death by BRCA/ATM mutational status was examined.

Result(s)* Among 1,901 OC patients tested for BRCA/ATM gene mutation, 616 (32.4%) were positive, 682 (35.9%) were negative and 603 (31.7%) had unknown status. Mean (SD) age was 59.5 (10.9) and 62.2 (12.1) years for patients with BRCA/ATM mutation and no mutation. No meaningful differences by BRCA/ATM mutational status (yes vs no) were found in the proportion of patients with stage 3/4 cancer (52.1% vs 52.1%), visceral metastasis (35.9% vs 31.8%) or ascites (30.8% vs 30.2%), at presentation; or in 1L platinum-taxane CT initiation (55% at 6 months). PARPi use differed by BRCA/ATM status and increased over time (table 1).

Conclusion* While there are few differences in characteristics between patients by BRCA/ATM status, PARPi use was higher in patients with BRCA/ATM mutation; patients with no BRCA/ATM mutation were more often treated with bevacizumab. There is need for further research to understand the role of BRCA/ATM status on treatment choice and outcomes.

454 GENETIC PROFILE BY WHOLE EXAM SEQUENCING OF A PATIENT'S BORDERLINE TUMOR AND ITS RELAPSE: A CASE REPORT

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Introduction/Background* Borderline ovarian tumors (BOT) are low malignant potential lesions with a good prognosis that represent around 15% of all epithelial tumors of the ovary. In addition to that, 30% of patients with

BOT are less than 40 years old which makes the preservation of fertility a key point in management.

Molecular studies in ovarian cancer have shown a correlation between the genetic profile of the tumor and the patient's prognosis

Methodology We report the case of a 25-year-old patient, G0P0A0, diagnosed with a mucinous borderline right ovarian tumor back in 2005. In 2009, during a routine control ultrasound, another ovarian cyst was identified on the right side. She was operated again of a cystectomy and peritoneal staging and histopathology confirmed the mucinous nature of the tumor. FIGO stage was IA in both cases. The two blocs of tumors underwent a full exome sequencing technique in order to identify possible key mutations.

Result(s)* Both tumors had variations of EGFR, FGFR3, BRCA1, STK11, NTKR1 and PIK3CA genes. However, the first tumor also had a KRAS mutation that wasn't found in the second lesion four years later. KRAS variants have been shown to be present in low grade ovarian cancer and well-differentiated tumors.

Conclusion* Borderline tumors often recurs in form of borderline tumor but the genetic profile should not be the same as the primary tumor, as shown in our case report. Loss of KRAS could explain the recurrence of the disease. Seeing that the molecular profile of the tumor is in constant change, a continuity in the spectrum normal-benign-borderline-malignant could be hypothesized.

455 PREVENTION OF INCISIONAL HERNIA IN OVARIAN CANCER PATIENTS UNDERGOING MIDLINE LAPAROTOMY

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Introduction/Background* Incisional hernias (IH) are a frequent complication of midline laparotomies in abdominal surgery. This study was conducted in order to determine the efficacy of mesh placement and assess the optimal fascia suture technique to reduce the IH rate in patients surgically treated after being diagnosed with malignant or borderline ovarian tumors.

Methodology Retrospective data from patients undergoing midline laparotomy for borderline or ovarian cancer in Hospital del Mar, Barcelona, from January 2008 to December 2019 were collected. Patient demographic, preoperative and intraoperative characteristics and potential risk factors for hernia were reported. The incidence of IH between groups (mesh and non-mesh) and the technique used in fascial closure for each patient (small bites technique vs large tissue bites) was reported.

Result(s)* In total, 133 patients with available data for follow-up were included. After clinical and radiological examination, 25 (18.79%) of them showed IH. 18 of 61(29.5%) patients in non-mesh group developed IH, compared with 7 of 72 (9.7%) in mesh group (OR 0.25, 95% CI 0.09-0.66,

$p < 0.005$). Patients of large tissue bites group showed higher prevalence of IH compared with small bites technique group without statistical significance (OR 0.46, 95% CI 0.17-1.24, $p = 0.119$). The combination of mesh reinforcement and small bites technique for fascial closure significantly reduce IH risk ($p = 0.021$).

Conclusion* The incidence of IH is high in patients undergoing midline laparotomy for ovarian cancer or borderline ovarian tumor. The addition of a prophylactic mesh and the use of small bites technique may reduce the incidence of IH and potentially minimize the social impact and costs of this complication.

464 MARKERS ON PLATELET MICROVESICLES FOR DIAGNOSTICS OF OVARIAN CANCER

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Introduction/Background* Routine blood markers provide poor diagnostic capacity for ovarian cancer. Ultrasound examination using the criteria developed by International Ovarian Tumor Analysis group is the most sensitive and specific diagnostic method, but in up to 20% of cases evaluation is inconclusive (Sladkevicius et al. 2020; Valentin et al. 2011). We pioneered platelet proteome analysis and identified platelet biomarkers of ovarian cancer (Lomnyska et al. 2018).

Methodology The purpose of the study is to identify diagnostic marker panel on platelet microvesicles in blood plasma for non-invasive differential diagnostics of benign adnexal lesions, borderline tumours and ovarian cancer. The expression of platelet protein biomarkers on platelet microvesicles in patients with benign and malignant adnexal lesions was analysed using flow cytometry. Identified biomarker panels were analysed together with the gynaecologic ultrasound criteria.

Result(s)* Analysis comprised 39 patients with benign adnexal lesions (n=10), borderline (n=10), ovarian cancer stage I-II (n=8) and stage III-IV (n=11). Using flow cytometry analysis of platelet microvesicles in platelet-poor blood plasma, we detected our previously identified by proteome analysis of platelets markers ACTN4, CRKL, ERP29, GELS, PHB and SRC

Abstract 464 Figure 1