Introduction/Background Lysyl oxidase (LOX) is an enzyme engaged in the cross-linking of the extracellular matrix proteins. LOX proenzyme is secreted to extracellular space, then proteolitically cleaved resulting in the LOX enzyme and LOX propeptide (LOX-PP). Various studies showed contradictory results, indicating that LOX may act either as an oncogene or a tumor suppressor. More detailed analyses suggest that LOX enzyme may be responsible for oncogenic effects, while LOX-PP may act as tumor suppressor. Our aim was to investigate LOX-PP role in ovarian cancer cells.
Methodology Ovarian cancer cell lines (SKOV3, A2780, ES2) with stable LOX-PP overexpression were established using lentiviral transfer system. Cell lines were validated by semi-quantitive RT-PCR and immunoblotting. Cells proliferation were assessed by MTS assay. In vitro cytotoxicity assay was performed with two major drugs used in ovarian cancer treatment: cisplatin (0,1–20μM range) and paclitaxel (1,56 nM - 30μM range).
Results RT-PCR showed that the LOX-PP-containing cells had higher LOX-PP expression compared to control cells with an empty vector. Immunodetection was successful both in cells lysates and in culture medium suggesting that the protein is efficiently secreted. Cell proliferation assay showed lower proliferation rate of A2780_LOX-PP as compared to controls. No differences in proliferation rate was observed among cell lines SKOV3 and ES2. In vitro cytotoxicity assay demonstrated that LOX-PP overexpressing SKOV3 and A2780 cells were more sensitive to both cisplatin and paclitaxel. The A2780_ LOX-PP cells showed a 8,5% and 16% higher sensitivity to paclitaxel and cisplatin, respectively, while SKOV3¬_ LOX-PP cells showed 15% and 24% higher sensitivity to those drugs.
Conclusion LOX-PP seems to exert an anti-cancer function in ovarian cancer, either by decreasing cells proliferation rate and/or by sensitizing of cells to chemotherapeutic agents.
Disclosures The authors have no conflicts of interest to declare.

#822 EXPANDING USE OF HIPEC AT TIME OF INTERVAL DEBULKING SURGERY. A PROSPECTIVE ANALYSIS ON PERIOPERATIVE AND ONCOLOGIC OUTCOMES

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Introduction/Background In advanced ovarian cancer, randomized data showed that hyperthermic intraperitoneal chemotherapy(HIPEC) after interval debulking surgery(IDS) determined improvement in both progression free(PFS) and overall survival (OS). However, data include only patients with FIGO stage III disease receiving ≤ IV cycles of neoadjuvant chemotherapy (NACT). We aimed to assess perioperative outcomes and PFS of FIGO stage IV and/or patients receiving up to VI cycles of NACT undergoing IDS+HIPEC.
Methodology This study included prospectively collected cases from 01/01/2019 to 31/07/22.Patients were suitable for HIPEC if: age>18 but≤75 years, Body Mass Index(BMI)≤ 35 kg/m2, ASA score≤ 2,FIGO stage III/IV epithelial disease treated with up to 6 cycles of NACT, residual disease at IDS<2.5 mm. Participation to clinical trials and uncontrolled medical conditions were exclusion criteria.
Results 205 patients were included. 76 (37.1%) had FIGO stage IV disease and 44 (21.5%) received >4 cycles of NACT. No significant difference was found in patients' and disease' characteristics between FIGO Stage III and FIGO Stage IV cases, while rate of stable disease after NACT (p=0.004), mean surgical complexity score (SCS) at IDS(p=0.001) and bowel resection rate(p=0.046) were higher in patients undergoing delayed IDS. No difference in both perioperative outcomes and complication rate were identified among the populations, however a trend towards a higher rate of severe postoperative complications was shown in case of delayed IDS (p=0.07) and FIGO stage III disease(p=0.052), the latter remaining the only independent risk factor for severe postoperative complications at multivariate analysis (p=0.02). No difference in PFS was identified neither between FIGO stage III and FIGO Stage IV patients(p=0.44), nor between patients receiving 3–4 cycles vs >4 cycles of NACT(p=0.85).
Conclusion In relation to the absence of additional complications and positive survival outcomes, we offer a background to consider the use of HIPEC in selected FIGO stage IV patients and women receiving >4 cycles of NACT.
Disclosures none

#823 COMPREHENSIVE CHARACTERIZATION OF NAÏVE TREATMENT SAMPLES OF HIGH GRADE SEROUS OVARIAN CANCER ADDRESSED TO NEOADJUVANT CHEMOTHERAPY: A HYPOTHESIS-GENERATING STUDY ON BIOMARKERS OF RESPONSE TO PLATINUM-BASED CHEMOTHERAPY

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Introduction/Background Neoadjuvant chemotherapy (NACT) followed by interval debulking surgery (IDS), has been shown to be not oncologically inferior to primary debulking surgery for patients affected by advanced epithelial ovarian cancer (EOC). However, 20% of patients don't respond and therapeutic options are limited. The genomic landscape could, at least partially, explain this phenomenon. By correlating mutational profiles with clinical outcomes, we aimed at identifying genomic features of resistance to platinum-based chemotherapy.
Methodology FPG500 (IRB 3837) is a comprehensive cancer genome profiling programme at Fondazione Policlinico Agostino Gemelli IRCCS. An evaluation of 523 genes (TSO500HT, Illumina) is provided. All EOC patients addressed to NACT and enrolled in FPG500 were included. Response to NACT was scored following the chemotherapy response score (CRS): no/minimal tumor response (CRS1), partial response (CRS2), and total response (CRS3). Age, residual tumour at IDS, and stage were also considered.
Results At data cut-off of the 9th of January 2023, 96 EOC patients were included in this preliminary analysis. 85 patients had at least one genomic alteration (78%). The overall mean of alterations was 1.75 (SD=1.37). CCNE1 amplifications were associated with older age (17% age < 64 years vs