Sugarkber's Peritoneal Cancer Index (PCI). This system scored the degree of tumor extent from 0 to 5 points for each region and the larger the number, the more severe it is.

**Results** The complete cytoreduction rate of the total study population was 59.7% (n = 43). The patients with optimal cytoreduction after IDS had significantly longer progressive free survival than other patients (p value = 0.04). CA125 levels after NAC did not affect optimal resectability (the area under the ROC curve (AUC) = 0.584, 95% CI: 0.450, 0.719). Using univariate and multivariate analysis, in prediction model including the greater omentum, ascending colon and right paracolic, AUC was 0.651 (95% CI: 0.539, 0.763). Using random forest, top 3 CT features were selected with a threshold of 0.1; greater omentum, pelvis, lesser sac and lesser omentum. The top 3 features achieved the AUC of 0.729 (95% CI: 0.622, 0.833).

**Conclusions** Low CT score of disease at top 3 features on preoperative CT scan can be strong predictor for optimal cytoreduction.

**EP253/#593 PROTEOMIC DISCOVERY OF BLOOD BIOMARKERS PREDICTING PROGNOSIS OF HIGH-GRADE SEROUS OVARIAN CARCINOMA**

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**Objectives** Investigate novel prognostic blood biomarkers of high-grade serious ovarian carcinoma (HGSOC) through mass spectrometry-based proteomics. 

**Methods** We conducted label-free liquid chromatography-mass spectrometry using fresh-frozen plasma samples (n=20) obtained from patients with HGSOC. Based on progression-free survival (PFS), samples were divided into two groups: good (PFS ≥18 months) and poor prognosis groups (PFS <18 months). Proteomic profiles were compared between two groups. Referring to the proteomics data, which we previously produced using chemotherapy-naive, fresh frozen HGSOC cancer tissues, the overlapped protein biomarkers were selected as candidate biomarkers. Validation of biomarkers were conducted using an independent set of HGSOC plasma samples (n=202) via enzyme-linked immunosorbent assay (ELISA). To construct models predicting 18-month PFS rate, we performed stepwise-selection based on the area under the receiver operating characteristic curve (AUC) with 5-fold cross-validation.

**Results** Differentially expressed protein analysis in plasma samples revealed that 38 proteins were upregulated in good prognosis group, 59 proteins were upregulated in poor prognosis group. Through bioinformatics analyses, GSN, SND1, VACN, CD163, SIGLEC14, and PRMT1 were selected as candidate biomarkers and underwent ELISA. Among them, high levels of GSN and low level of SND1 were associated with worse PFS. Combining clinical variables and ELISA results, we constructed several models. Among them, the model consisting of four predictors (FIGO stage, residual tumor after surgery, GSN, and SND1) showed the best performance in predicting the 18-month PFS rate and outperformed the CA-125 model.

**Conclusions** Through proteomics analyses, we identified novel blood protein biomarkers associated with the prognosis of HGSOC and successfully developed the prediction model.

**EP254/#715 EXPRESSION PROFILES OF ID AND E2A IN OVARIAN CANCER AND SUP-PRESSION OF OVARIAN CANCER BY THE E2A ISOFORM E47**

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**Objectives** The E2A and inhibitor of DNA binding (ID) proteins are transcription factors involved in cell cycle regulation and cellular differentiation. Imbalance of ID/E2A activity is associated with oncogenesis in various tumors, but their expression patterns and prognostic values are still unknown. We evaluated ID and E2A expression in ovarian cancer cells and assessed the possibility of reprogramming ovarian cellular homeostasis by restoring the ID/E2A axis.

**Methods** We analyzed copy number alterations, mutations, methylations, and mRNA expressions of ID 1 – 4 and E2A using The Cancer Genome Atlas data of 570 ovarian serous cystadenocarcinoma patients. We also determined the effect of E2A induction on ovarian cancer cell growth in vitro and in vivo using SKOV-3/Luc cells transduced with tamoxifen-inducible E47, a splice variant of E2A.

**Results** Incidentally, 97.2% cases exhibited gain of ID 1 – 4 or loss of E2A. Predominantly, ID 1 – 4 were hypomethylated, while E2A was hypermethylated. Immunohistochemical analysis revealed that ID-3 and ID-4 expressions were high while E2A expression was low in cancerous ovarian tissues. Correlation analysis of ID and E2A levels with survival outcomes of ovarian cancer patients indicated that patients with high ID-3 levels had poor overall survival. Interestingly, E47 induced SKOV-3 cell death in vitro and inhibited tumor growth in SKOV-3 implanted mice.

**Conclusions** Therefore, restoring ID/E2A balance is a promising approach for treating ovarian cancer.

**EP255/#721 INTERVAL DEBULKING SURGERY WITH OR WITHOUT HYPERTERMIC INTRAPERITONEAL CHEMOTHERAPY IN ADVANCED-STAGE OVARIAN CANCER: SINGLE-INSTITUTION COHORT STUDY**

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**Objectives** To evaluate the additive effects of hypertermic intraperitoneal chemotherapy (HIPEC) to interval debulking surgery (IDS) in patients with advanced-stage ovarian cancer.

**Methods** From January 2015 to February 2019, 123 patients with stages IIIC-JV ovarian cancer treated with neoadjuvant chemotherapy (NAC) followed by IDS with optimal...
cytoreduction. 43 patients received IDS with HIPEC and 80 patients had IDS without HIPEC. The median follow-up period was 34.4 months.

Results No differences in baseline characteristics in patients were found between the 2 groups. The IDS with HIPEC group had fewer median cycles of chemotherapy (P = 0.002) than IDS group. The IDS with HIPEC group had higher rate of high surgical complexity score (P = 0.032) and higher rate of complete resection (P = 0.041) compared to IDS group. The times to start adjuvant chemotherapy were longer in IDS with HIPEC group compared to IDS group (P < 0.001). Post-operative grade 3 or 4 complications were similar in the two groups (P = 0.237). Kaplan-Meier analysis showed that HIPEC with IDS group had better progression-free survival (PFS) (P = 0.010), while there was no difference in overall survival between two groups (P = 0.142). In the multivariate analysis, HIPEC was significantly associated with better PFS (HR, 0.60; 95% CI, 0.39 – 0.93).

Conclusions The addition of HIPEC to IDS resulted in longer PFS than IDS without HIPEC not affecting safety profile. Further research is needed to evaluate the true place of HIPEC in the era of targeted treatments.

EP257/#1025 DOES GENETIC STATUS INFLUENCE TIME TO DEATH AFTER DIAGNOSIS WITH BRAIN METASTASIS IN OVARIAN CANCER?

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Objectives The purpose of this study was to evaluate the impact of BRCA mutation status on survival among patients with epithelial ovarian, primary peritoneal or fallopian tube cancer (EOC) and brain metastasis (BM).

Methods Single institution retrospective study of EOC patients who had access to germline and somatic genetic testing from 2017–2020. Genetic status, oncologic data and demographics were abstracted from medical records. Descriptive statistics were performed.

Results From 2017–2020, 449 patients underwent germline genetic testing, and 308 patients underwent somatic testing. BM incidence was 2.04% (1/49) among germline BRCA (gBRCA) mutated cases, 14.58% (7/48) among somatic BRCA (sBRCA) mutated cases, and 3.41% (12/352) among patients without germline or somatic BRCA mutations (non-BRCA) (p=.001). Median time from initial diagnosis to diagnosis with BM was 38 months for gBRCA, 29 months for sBRCA, and 23 months for non-BRCA cases. Two cases were diagnosed with BM at initial diagnosis. Median time to death after BM diagnosis is not reached for gBRCA, 27 months for sBRCA, and 12.5 months for non-BRCA cases. There was no difference in the number of isolated BM between groups; systemic disease was present at the time of BM diagnosis for 16/20 (80%).

Conclusions This is the first report describing outcomes of EOC with BM incorporating germline and somatic genetic data. BMs were most frequent in sBRCA patients. Survival after BM diagnosis was longest for the gBRCA, followed by sBRCA, and shortest for non-BRCA cases. The presence of BRCA mutations, germline or somatic, may represent a favorable prognostic factor if BM are diagnosed.

EP258/#760 PEGYLATED LIPOSOMAL DOXORUBICIN DOES NOT AFFECT CARDIAC FUNCTION IN PATIENTS TREATED FOR GYNECOLOGIC MALIGNANCIES

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Objectives Pegylated liposomal doxorubicin (PLD) has a more favorable side-effect profile compared to doxorubicin. While the FDA label for PLD includes a black box warning concerning cardiac toxicity, the actual risk of cardiotoxicity is unknown and it may be substantially less than that of doxorubicin.

Methods All gynecologic malignancy cases with PLD use were reviewed over a 10-year period. Cardiac studies were aligned already treated with bevacizumab or HIPEC as an additional front-line therapy.