Sugabaker’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 a strong predictor for optimal cytoreduction.

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

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**Abstract** 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, methylation, 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 HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY IN ADVANCED-STAGE OVARIAN CANCER: SINGLE-INSTITUTION COHORT STUDY

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**Abstract** To evaluate the additive effects of hyperthermic 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.

**EP256/#931 RE-VALIDATION OF CHEMOTHERAPY RESPONSE SCORE (CRS) AS A PROGNOSTIC FACTOR IN OVARIAN CANCER: THE EFFECT OF BEVACIZUMAB AND HIPEC ON SURVIVAL**

**Objectives** The aim of the study is to re-verify CRS as a prognostic factor for ovarian cancer patients who received front-line maintenance therapy or intra-operative chemotherapy.

**Methods** The medical records from tubo-ovarian HGSC patients who received neoadjuvant chemotherapy followed by interval debulking surgery between August 2009 to April 2020 underwent retrospective analysis. Progression-free survival (PFS) and overall survival (OS) were obtained using Kaplan-Meier analysis; the aforementioned was used to evaluate the effect of bevacizumab, hyperthermic intraperitoneal chemotherapy (HIPEC) and CRS.

**Results** A total 233 patients were analyzed. 34 (14.6%) patients were treated with bevacizumab as a front-line maintenance therapy and 42 (18.0%) patients underwent IDS with HIPEC. CRS 3 in patients without bevacizumab maintenance therapy was associated with improved PFS (28.0 vs 21.1 months, $p = 0.047$) and OS (87.2 vs 79.0 months, $p = 0.036$) compared to CRS 1 or 2. However, there is no significant PFS or OS prolongation in bevacizumab-treated patients ($p = 0.254$, $p = 0.505$, respectively). Similarly, CRS 3 in HIPEC-naïve patients improved PFS significantly longer than CRS 1 or 2 (43.8 vs 19.7 months, $p = 0.015$), whereas CRS 3 in HIPEC-treated patients were not significantly associated with prolongation of PFS nor OS ($p = 0.492$, $p = 0.241$, respectively).

**Conclusions** Contrary to bevacizumab or HIPEC-naïve patients, CRS system may not predict survival in patients who were already treated with bevacizumab or HIPEC as an additional front-line therapy.

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

**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) ($p = 0.001$). 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 was 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 cases. 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**

**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