group, whereas 131 proteins were in the poor response group. Proteins significantly upregulated in the good response group included ribosomal- and infection-related proteins. Proteins significantly upregulated in the poor response group included extracellular matrix receptor- and coagulation-related proteins. To identify a protein signature that stratifies good and poor responders to PARP inhibitors, we performed four feature selection algorithms with leave-one-out cross-validation to improve the accuracy. High expression of Proteins A and B were associated with worse and better progression-free survival, respectively.

Conclusions We successfully identified protein signatures associated with response to PARP inhibitors. This study was the most extensive proteomic analysis to predict PARP inhibitor response in ovarian cancer.

**EP237/#590 ROLE OF SECONDARY CYTOREDUCITIVE SURGERY AND BEVACIZUMAB IN PLATINUM-SENSITIVE RECURRENT OVARIAN CLEAR CELL CARCINOMA**

1Se Il Kim*, 2Sungyun Kim, 3Ki Dong Kim, 4Jeong-Yeol Park, 5Myong Cheol Lim, 6Jeong-Won Lee, 7Jaee-Won Kim, 5Seoul National University College of Medicine, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of; 2Seoul National University Hospital, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of; 3Seoul National University Bundang Hospital, Department of Obstetrics and Gynecology, Seongnam, Korea, Republic of; 4University of Utah College of Medicine, Salt Lake City, Department of Obstetrics and Gynecology, Salt Lake City, Utah, USA; 5Samsung Medical Center, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of; 6Samsung Medical Center, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of.

Objectives Ovarian clear cell carcinoma (OCCC) is associated with a higher recurrence rate and tends to develop chemoresistance. Currently, optimal management of recurrent OCCC has not yet been established. Thus, we aimed to investigate survival according to the treatment methods in platinum-sensitive relapsed OCCC.

Methods From five institutions, we identified OCCC patients with platinum-sensitive recurrence who received secondary treatment between 2007 and 2021. Patient characteristics and survival outcomes were compared according to the use of bevacizumab (BEV) during second-line chemotherapy and secondary cytoreductive surgery (CRS).

Results In total, 138 patients were included. The BEV group (n=36) showed improved progression-free survival (PFS; median, 15.4 vs. 7.5 months; P=0.042) and overall survival (OS; P=0.043) compared to the non-BEV group (n=102). In multivariate analyses, BEV was identified as an independent prognostic factor for PFS (aHR, 0.571; 95% CI, 0.354–0.921; P=0.022) and OS (aHR, 0.435; 95%CI, 0.195–0.970; P=0.042). The secondary CRS group (n=42) had multi-site metastasis (P<0.001) at recurrence less frequently than the no surgery group (n=96). The secondary CRS group showed significantly better PFS (median, 33.7 vs. 7.2 months; P<0.001) and OS (P<0.001). Secondary CRS was associated with a significantly improved PFS (aHR, 0.297; 95% CI, 0.183–0.481; P<0.001) and OS (aHR, 0.276; 95% CI, 0.133–0.576; P=0.001). The BEV and non-BEV groups showed similar PFS and OS among the patients who underwent secondary CRS. The BEV group showed improved PFS and OS among patients who did not undergo surgery.

Conclusions Our study results demonstrate the survival benefits of BEV and secondary CRS in patients with platinum-sensitive relapsed OCCC.

**EP238/#618 HIGH FKBPL EXPRESSION CONTRIBUTES TO CELL PROLIFERATION BY REGULATING THE CELL CYCLE AND AFFECTS PROGNOSIS IN OVARIAN CANCER PATIENTS**

1Hyosun Kim*, 2Gwan Hee Han, 3Hee Yun, 4Jae-Hoon Kim, 5Hanbyoul Cho. 1Severance Hospital, Yonsei University, Department of Obstetrics and Gynecology, Gangnam-gu, Seoul, Korea, Republic of; 2Kyonggi University Hospital at Gangdong, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of.

Objectives About 70% of ovarian cancer patients experience recurrence, and resistance is induced by repeated chemotherapy. So, research for novel therapeutic approach is urgently needed. FK506-binding protein like (FKBPL) is involved in immune & inflammatory responses, and signaling pathways regulating various cancers. However, the role of FKBPL in epithelial ovarian cancer (EOC) has not been elucidated.

Methods Immunohistochemical analysis of FKBPL expression using tissue microarray was performed on 398 epithelial ovarian tissues (186 cancer, 49 borderline, 84 benign, and 79 normal tissues). The clinicopathological parameters and those data were compared. It was also performed in vitro to investigate the functional role of FKBPL in ovarian cancer cell lines.

Results The expression of FKBPL in ovarian cancer tissue was upregulated than other epithelial tissues (all p < 0.001). Importantly, FKBPL expression was associated with stage, tumor grade, cell type, and chemotherapy response (p ≤ 0.05). Multivariate survival analysis showed that overexpression of FKBPL was associated with poor overall survival (HR = 3.58; 95% CI: 1.87–6.84, p < 0.001) and disease-free survival (HR = 3.1; 95% CI: 1.97–4.87, p < 0.001). In-vitro results also showed that knockdown of FKBPL was associated with decreased cell proliferation, inhibited colony formation, and induction of G1 phase cell cycle arrest, supporting an oncogenic role of FKBPL in ovarian cancer cell lines.

Conclusions Overexpression of FKBPL could be a significant biomarker for predicting poor survival after chemotherapy. In addition, future research that reveals the mechanism of FKBPL on the cancer cell cycle will lead to the development of new anticancer drugs.

**EP239/#800 PROGNOSTIC ANALYSIS OF SPLENIC METASTASIS IN ADVANCED OVARIAN CANCER: DOES PARENCHYMAL METASTASIS MATTER?**

Jeeyeon Kim*, Joo-Hyuk Son, Tae-Wook Kong, Suk-Joon Chang, Hee-Sug Ryu. Ajou University School of Medicine, Department of Obstetrics and Gynecology, Suwon, Korea, Republic of.

Objectives Splenic metastasis is a part of peritoneal seeding with multi-organ involvement in advanced ovarian cancer. Although splenic parenchymal lesion is classified into FIGO stage IVB disease, it is usually surgically resectable. The aim of this study was to evaluate the patterns and prognostic value of splenic parenchymal metastasis in advanced ovarian cancer.
Methods We retrospectively reviewed medical records of patients who received splenectomy as part of cytoreductive surgery in advanced ovarian cancer from 2007–2022. Patients were divided into the parenchymal invasion group and capsular/hilar invasion group. Clinical characteristics including histologic invasion patterns and survival outcomes were analyzed.

Results A total of 100 ovarian cancer patients received splenectomy; 55 (55%), 40 (40%) and 5 (5%) cases were performed during primary debulking surgery, interval debulking surgery and at the time of disease recurrence respectively. The median age was 54.5 yrs, and all patients had FIGO stage IIIC-IV disease. 27 (27%) patients had parenchymal invasions and all the lesions were accompanied by capsular or hilar metastasis without solitary parenchymal invasion. Among the patients with primary disease (n=95), 42 (44.2%) patients had stage IV disease including 17 (17.8%) patients with splenic parenchymal metastasis. There was no difference in residual disease (p=0.392), progression-free survival (p=0.339) and overall survival (p=0.841) between the patients with parenchymal invasion and capsular/hilar metastasis.

Conclusions Although splenic parenchymal metastasis reflected widespread tumor dissemination, all the lesions were followed by hilar or capsular involvement and surgically treatable disease. The prognosis of splenic parenchymal metastasis was not inferior to the capsule or hilar invasion, therefore, it needs to be considered as FIGO stage IIIC disease.

**EP240/#814** PROGNOSTIC SIGNIFICANCE OF CLINICAL FACTORS, INCLUDING BRCA MUTATION STATUS, IN EPITHELIAL OVARIAN, PERITONEAL, AND FALLOPIAN TUBE CANCERS

Jiyoung Kim*, Dae Woo Lee, Hae Nam Lee, Bucheon St. Mary’s Hospital, College of Medicine, The Catholic University of Korea, Seoul, Obgy, Bucheonsi, Korea, Republic of

10.1136/ijgc-2022-ijgs.331

Objectives We analyzed the survival outcomes of patients with epithelial ovarian, peritoneal, or fallopian tube carcinoma (EOPFTC) with BRCA1/2 mutations and the clinical factors associated with the prognosis of these cancers.

Methods Based on the data collected from Clinical Data Warehouse of Catholic University of Korea, we investigated patients who had been diagnosed and treated for EOPFTC, and undergone germline BRCA test in 6 hospitals between January 2012 and December 2019.

Results In total, 378 patients were identified and 76 (20.1%) women carried BRCA 1/2 mutation. There was no significant difference in progression-free survival (PFS; p = 0.562) and overall survival (p = 0.677) between BRCA 1/2 mutation and wild-type groups. In multivariate analysis, however, PFS of BRCA 1/2 mutation group for 18 month from primary treatment was significantly superior to wild-type group (p = 0.024). In subgroup analysis for high grade serous carcinoma patients, BRCA 1/2 mutation was an independent favorable prognostic factor for PFS (p = 0.035). Subgroup analysis for stage III to IV disease also demonstrated an independent PFS gain in patients with BRCA 1/2 mutation (p = 0.015). Neo-adjuvant chemotherapy as primary treatment was related with poor PFS (p < 0.001) and reduced OS (p = 0.005).

Conclusions Germline BRCA 1/2 mutation improved short-term PFS in patients with EOPFTC. Elevated initial CA125 level and primary neoadjuvant chemotherapy were related to poor prognosis.

**EP241/#853** HIGH EXPRESSION OF TRAFFICKING PROTEIN TRANSMEMBRANE P24 TRAFFICKING PROTEIN9 PROMOTES POOR PROGNOSIS OF EPITHELIAL OVARIAN CANCER

1Miyoung Kim, 2Gwan Hee Han, 3Jae-Hoon Kim, 4Hanbyul Cho, 5Bowook Kim. 1CHA Gangnam Medical Center, Obstetrics and Gynecology, Seoul, Korea, Republic of; 2Kyunghee University Hospital at Gangdong, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of; 3Institute of Women’s Medical Life Science, Yonsei University College of Medicine, Department of Obstetrics and Gynecology, Seoul, Korea, Republic of; 4Gangnam Severance Hospital, Yonsei University, Department of Obstetrics and Gynecology, Gangnam-gu, Korea, Republic of; 5Catholic Kwandong University International St. Mary’s Hospital, Obstetrics and Gynecology, Incheon, Korea, Republic of

10.1136/ijgc-2022-ijgs.332

Objectives Transmembrane emp24 domain-containing protein9 (TMED9) belongs to the TMED/p24 family which regulates the innate immune and protein transport via the ER-Golgi cargo pathway. TMED9 role in epithelial ovarian cancer (EOC) has not been clarified yet. Therefore, in this study we aim to evaluate the function, molecular mechanism and clinicopathological significance of TMED9 in EOC.

Methods Expression levels of functional role of TMED9 were respectively evaluated by Immunohistochemistry staining of EOC, borderline, benign and normal epithelial tissues, qPCR, western blotting, and public data sets. The functional roles of TMED9 were evaluated by MTS, colony formation, and transwell migration/invasion assays in EOC cell lines.

Results TMED protein was elevated in EOCs according to a GEO and TCGA datasets. High mRNA and protein levels of TMED9 were observed in EOCs. Importantly, high expression level of TMED9 was associated poor overall survival and disease free survival compared with low expression of TMED0 in EOCs (p = 0.006, p < 0.001, respectively). In vitro results also demonstrated the knockdown of TMED9 was associated with decreased cell invasion (p < 0.001), migration (p < 0.001), proliferation (p < 0.001), and colony forming abilities (p < 0.001) supporting the oncogenic role in EOC.

Conclusions Our study is the first work to identify an oncogenic role of TMED9 in EOC tissues and cell lines which may provide insights into the application of TMED9 as a novel predictor of clinical outcome and a potential therapeutic target in EOC patients.

**EP242/#861** HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR-2 (HER2) RECEPTOR EXPRESSION AND ITS DYNAMIC CHANGE IN OVARIAN CANCER PATIENTS

Yoo-Na Kim*, Yunsoo Chung, Junsik Park, Yong Jae Lee, Jung-Yun Lee, Eun Ji Nam, Sang Wun Kim, Young Tae Kim, Sunghoon Kim. Yonsei University College of Medicine, Department of Obstetrics and Gynecology, Women’s Cancer Center, Yonsei Cancer Center, Institute of Women’s Life Medical Science, Seoul, Korea, Republic of

10.1136/ijgc-2022-ijgs.333

Objectives HER2 targeted drugs are increasingly introduced in non-breast cancers, yet studies on HER2 expression in ovarian cancer patients is lacking. Therefore, we studied HER2 receptor status and its dynamic change in ovarian cancer patients, a

Int J Gynecol Cancer 2022;32(Suppl 3):A1–A274