factors which impact PFI in epithelial ovarian cancer in Tunisia.

**Methods** We conducted a retrospective monocentric study including 60 Tunisian patients with relapsed epithelial ovarian cancer between October 2012 and December 2018. Clinico- pathological data, treatment and survival data were collected from medical records. Predictive factors were identified by logistic regression following the Cox regression model.

**Results** The median age at first diagnosis was 59 years [28–85 years]. Relapsed ovarian cancers were platinum-sensitive in 65% (n=39) and resistant in 35% (n=21) of cases. Overall 2-year survival was 87% in the sensitive relapse group versus 11% in the resistant group (p<0.001). Age, Body mass index, histologic type, grade and timing of initial surgery didn't impact significantly the interval of relapse. However, short platinum-free interval (< 6 months) was correlated with : advanced stage at diagnosis (IIA to IV) (Odds ratio, OR:1.67, 95% Confidence interval, CI [1.34–2.09]) and incomplete staging at the initial surgery (OR: 3.4, 95% CI [1.07–10.84].

**Conclusions** The interval of relapse is correlated with the extension of the disease and/or with the quality of surgery. Patients should be referred to expert centers.

## EPV214/#506 OVERALL SURVIVAL PROGNOSTIC FACTORS IN RECURRENT EPITHELIAL OVARIAN CANCER IN TUNISIA

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**Objectives** Epithelial ovarian cancers relapse in the majority of cases. We aimed to analyze overall survival prognostic factors in recurrent epithelial ovarian cancer in Tunisia.

**Methods** We conducted a retrospective monocentric study including 60 Tunisian patients with relapsed epithelial ovarian cancer between October 2012 and December 2018. Clinico-pathological Data, treatment and survival data were collected from medical records. The Kaplan-Meier method was used to calculate overall survival (OS) and Cox regression analysis was performed to define the effects of risk factors on survival.

**Results** The median age at diagnosis was 59 years [28–85 years]. Recurrent ovarian cancer were platinum sensitive in 35% (n=21), partially sensitive in 30% (n=18) and platinum-resistant in 35% (n=21) of cases. Surgery of the first recurrence was performed for 9 patients (15%). Fifty-three (88%) patients received at least one line of chemotherapy in the recurrence setting. The median number of received cycles was one [0–6]. Overall survivals at 1 year, 2 years and 5 years were respectively 83,3%, 62,1%, and 37,3%. Median overall survival was 32 months. Prognostic factors which were associated with better OS were early initial stage (I-IIA) (p=0.012), complete initial staging (p=0.001), platinum- sensitive relapse (p=0.001) and R0 resection of the relapse (p=0.001). Age, grade, relapse's site didn't impact significantly overall survival.

**Conclusions** Overall survival of recurrent ovarian cancer remains poor. Further studies in order to promote early detection are needed. Quality of surgery constitutes a major impact factor.

## EPV215/#519 SOX4 DRIVES OVARIAN CANCER STEMNESS VIA TRANSCRIPTIONALLY ACTIVATING HDAC1

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**Objectives** The objective of this study is to explore the role of SOX4 in ovarian cancer stem cells (OCSCs) and elucidate the underlying mechanisms.

**Methods** Ovarian cancer cell lines and primary cells were used in this study. Lentivirus system was used for genetic manipulation. Sphere-forming activity was examined by sphere formation assay. limiting dilution assay was employed to determine the frequency of sphere-forming cell. The mRNA and protein levels were determined by qRT-PCR and western blot, respectively. The effect of SOX4 on the transcriptional activity of HDAC1 promoter was tested by luciferase assay and their direct binding was determined by Chromatin immunoprecipitation (ChIP) assay. The protein levels of surface markers were examined by flowcytometry.

**Results** SOX4 overexpression significantly increased the sphere-forming activities, the frequency of sphere-forming cells and the expression levels of OCSCs markers in OCSCs; SOX4 depletion led to opposite results. SOX4 directly bound to the HDAC1 promoter and increased the transcriptional activities of HDAC1 promoter and there are four SOX4-bidning sites in HDAC1 promotor. HDAC1 predicts poor prognosis of ovarian cancer and positively regulates OCSCs stemness. HDAC1 ablation abolished the effect of SOX4 on OCSCs stemness.

**Conclusions** The results in this study demonstrated a novel mechanism that SOX4 promotes ovarian cancer stemness by transcriptionally activating HDAC1. This finding suggests that HDAC1 inhibitor could be an effective therapeutic agent for eradicating human OCSCs driven by aberrant SOX4 upregulation.

## EPV216/#520 PARP1 SUPPORTS OVARIAN CANCER STEMNESS BY UBIQUITINATION OF NUCLEAR YAP

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**Objectives** The objective of this study is to improve our understanding about PARP1 in ovarian cancer stem cells (OCSCs), which would be helpful for extension of the potential of PARP inhibitors as anti-cancer drugs.

**Methods** SK-OV3, primary ovarian cancer cells and xenograft mice were used in the study. Genetic manipulation was performed by lentivirus systems. The stemness of OCSCs was

examined by determination of sphere-forming capacities, the frequency of sphere-forming and tumor-initiating cells and the expression levels of OCSCs markers. Immunoprecipitation assay was used for determination of the binding between PARP1 and nuclear YAP. The post-translational modification of YAP was examined by western blot.

**Results** PARP1 positively regulates the stemness of OCSCs; treatment with PARP1 inhibitors also suppressed the stemness of OCSCs. PARP1 enhanced YAP activity reflected by upregulation of the mRNA levels of YAP target genes and the protein level of nuclear YAP. PARP1 enhanced the stabilization of YAP in nucleus and the ubiquitination of nuclear YAP was involved in this process. The positive correlation between PARP1 and nuclear YAP was found in both cell-based and mice models. Knockdown of YAP abolished the effect of PARP1 on OCSCs stemness.

**Conclusions** PARP1 promotes the stemness of OCSCs and stabilization of nuclear YAP is the underlying mechanism. This finding is useful for extension the clinical use of PARP1 inhibitors for eradicating human OCSCs.

## EPV217/#534 IMPACT OF RESIDUAL TUMOR SIZE BY COMPUTED TOMOGRAPHY AFTER PRIMARY OPTIMAL CYTOREDUCTION ON PROGNOSIS OF ADVANCED OVARIAN CANCER

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**Objectives** To evaluate the prognostic significance of residual tumor size on computed tomography (CT) after upfront surgery for advanced ovarian cancer (AOC).

**Methods** We collected data of patients with stage III-IV high-grade serous carcinoma of the ovary (HGSC) who underwent optimal cytoreduction between 2013 and 2018. They took CT between upfront surgery and adjuvant chemotherapy. We evaluated surgical and radiological residual tumor size after upfront surgery, which was divided into R0 (no residual lesion) and R1 (residual tumor <1 cm).

**Results** A total of 106 patients received surgical R0 (n=73, 68.9%) and R1 (n=33, 31.1%). Among all patients, 66 (62.3%) and 40 (37.7%) showed radiologic R0 and R1, respectively. In 73 patients with surgical R0, 56 (76.7%) and 17 (23.3%) showed radiologic R0 and R1, whereas 10 (30.3%) and 23 (69.7%) were observed in 33 with surgical R1, respectively. In terms of survival, both surgical R0 and radiological R0 showed better progression-free survival (PFS; 26 vs. 16 mons; 33 vs. 15 mons; p <0.05), whereas no difference in overall survival based on residual tumor size. In multivariate analysis, surgical R0 was the only factor that improved PFS (adjusted HR, 0.45; 95% CI, 0.21–0.98). On the other hand, radiologic R0 didn't reach statistical significance (adjusted HR, 0.58; 95% CI, 0.14–1.03).

**Conclusions** Although patients with radiologic R0 showed better PFS in univariate analysis, there was no significance in multivariate analysis. Therefore, surgical R0 was more important factor to predict the prognosis of disease than radiologic R0 in AOC patients with optimal cytoreduction.

## EPV218/#551 DEVELOPMENT OF A NOMOGRAM TO PREDICT THE FEASIBILITY OF MINIMALLY INVASIVE INTERVAL DEBULKING SURGERY IN PATIENTS WITH ADVANCED OVARIAN CANCER: A LARGE MONOCENTRIC COHORT STUDY

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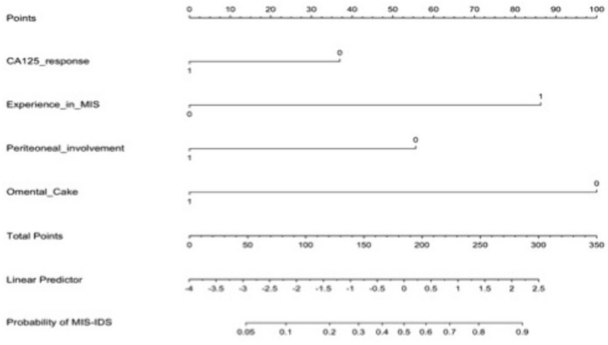
**Objectives** Currently, no clear guidance defining the ideal candidate for minimally invasive interval debulking surgery (MI-IDS) exists. This study aimed to identify predictive factors of minimally invasive approach feasibility in advanced ovarian cancer (AOC) patients who were candidates to IDS after neo-adjuvant chemotherapy (NACT).

**Methods** This was a single institution, retrospective study. Perioperative variables were used to predict the likelihood of MI-IDS using multivariable models. A nomogram was developed, and internal validation was performed using the bootstrapping correction technique.

**Results** Between 2014 and 2020, 108 (28.4%) and 272 (71.6%) patients underwent IDS by minimally invasive and open approach, respectively. Surgeon's expertise (OR:6.27, 95% CI:3.25–12.08, p≤0.001), absence of omental cake (OR: 8.56, 95% CI: 4.22–17.33, p≤0.001), <2 peritoneal sites involvement (OR:3.11, 95% CI:1.45–6.65, p=0.003) and complete serological response (OR:2.23, 95% CI:1.21–4.11, p=0.010) appeared to be significantly correlated with MI-IDS feasibility at multivariate analysis.

A nomogram was built to visualize the effect of perioperative variables on the estimated probability of MI-IDS in patients with a clinical response after NACT. We used the




**Abstract EPV218/#551 Figure 1**
*Co125*_response indicates complete response (0) or partial/stable serologic response (1). *Experience_in_MIS* indicates good surgeon's experience in MIS (1) or not (0). *Pentoneal_involvement* indicates ≥2 sites (1 of < 2 sites (0) involved. *Omental_cake* indicates presence (1) or absence (0) of oemental cake.
To use, find Ca125 response om Ca125_response axes, then draw straight line upward to points axis to determine how many points patient receives for Ca125_response. Do this again for other axes, each time drawing straight line upward toward points axis. Sum points reveived for each variable and find sum on total points axis. Draw straight line down to probability of MIS-IDS axix to find find patient's probability of receiving MIs-IDS.