Methodology In this retrospective cohort study, we identified patients aged ≥ 18 years with OC (≥ 2 OC diagnoses within 90 days) in Optum's de-identified electronic health record (EHR) database (1/1/2017 – 6/30/2020; N=16.6M total female lives). Index date was the first diagnosis of OC. Patients were stratified by BRCA/ATM status and followed for up to 24 months to assess overall survival (OS). Death was captured from the EHR and linked social security and obituary data. Two-year OS rates were evaluated using the Cox Proportional-Hazards model, adjusting for baseline demographics, comorbidities, clinical and prognostic factors.

Result(s)* Among 11,206 patients with OC, 1,901 (17.0%) had evidence of being tested for BRCA/ATM: 616 (32.4%) had BRCA/ATM mutation, 682 (35.9%) did not BRCA/ATM mutation, and 603 (31.7%) had unknown status. Patients with BRCA/ATM mutation had a mean age (SD) 59.5 (10.9) and 62.2 (12.1) years, respectively; 35.9% of patients with BRCA/ATM mutation had visceral metastasis at diagnosis compared with 31.8% with no mutation. Of patients with known stage at diagnosis and with BRCA/ATM mutation (N=416), 77.2% presented at stage 3/4 compared with 70.6% of patients without BRCA/ATM mutation (N=503). Patients with BRCA/ATM mutation and no BRCA/ATM mutation were observed for a median of 705 days and 697 days, respectively. Two-year OS rates were not significantly different by BRCA/ATM mutation status (yes: 79.2% vs no: 75.4%, $p=0.13$); unadjusted hazard ratio (HR) 1.22 (95% CI =0.94–1.58); adjusted HR 1.12 (95% CI 0.85–1.47).

Conclusion* In this observational study of US patients with ovarian cancer, there was no statistically significant difference in two-year OS rates between patients with or without BRCA/ATM mutation. Additional research is needed to evaluate the association between BRCA/ATM status and overall survival in different patient populations.

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COMPARISON OF PRIMARY VS. INTERVAL DEBUNKING SURGERY IN PATIENTS WITH OVARIAN CANCER MANAGED WITH ERAS PROTOCOL

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Introduction/Background* Complete cytoreduction is the cornerstone of the treatment for ovarian cancer (OC). Patients are triaged either for primary debulking surgery (PDS) or neoadjuvant chemotherapy (NACT) followed by interval debulking surgery (IDS), based on the preoperative assessment. The aim of this study is to evaluate the impact of the enhanced recovery after surgery (ERAS) protocol in postoperative morbidity for both groups (PDS vs. IDS).

Methodology Retrospective analysis of women with OC from the 1st Department of Obstetrics & Papageorgiou Hospital (ESGO Certified Center for AOC), 2017 – 2019. Patients were triaged for PDS or IDS based on preoperative imaging and 'laparoscopic Fagotti's score'. Patient & tumor characteristics, treatment options and follow-up information were collected. Primary outcomes were ICU admittance, post-operative complications (Clavien – Dindo classification) and duration of hospitalization.

Result(s)* 78 patients met the inclusion criteria: 40 underwent PDS and 38 IDS. The two groups had no significant difference in patients characteristics (age, Charlson comorbidity index (CCI)). Furthermore, concerning surgical outcomes PDS vs IDS group had higher surgical complexity score (SCS), blood loss and complete debulking rate, but with no statistical significance (5 vs. 4, $p=0.1466/350$ vs. 300, $p=0.1197/77.5\%$ vs. 68.4%, $p=0.5958$ respectively). Only the duration of the surgery was statistically significant in the PDS group (300 vs. 195 min, $p=0.007$). The implementation of the ERAS protocol led to comparable results with no statistical significance for postoperative morbidity, between the two groups: The PDS group had higher ICU admittance (17.5% vs. 2.6%, $p=0.9741$), lower overall complications (15 vs. 19, $p=0.9741$) and the same hospitalization (8 ± 3 vs. 8 ± 2.8 days, $p=0.3805$).

Conclusion* Careful preoperative selection of patients and the implementation of the ERAS program in the management of OC results in comparable postoperative morbidity between PDS and IDS, regardless of the higher SCS in the upfront surgery or the toxicity of the NACT. Further prospective studies are needed to validate these results.

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SURGICAL MANAGEMENT OF PREMENOPAUSAL WOMEN WITH OVARIAN CANCER

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Introduction/Background* Ovarian cancer (OC) is the most lethal gynaecological malignancy worldwide. The standard management of ovarian cancer in premenopausal women is not clear, and much controversy remains as to whether within this group of patients some of them with advanced stages should have primary cytoreductive surgery followed by chemotherapy or neoadjuvant chemotherapy followed by interval cytoreductive surgery. There is increasing evidence that the patients gain the most benefit from surgery are those with no residual disease at the completion of surgery (R0 resection).

Methodology Retrospective analysis of women under 45 years old diagnosed of epithelial and non-epithelial ovarian cancer during the last 10 years.

Result(s)* 25 women under 45 years with OC were reviewed. Mean age at diagnosis was 36.27 years (SD 5.77; min:21, max: 43). Most of the tumors (52% N:13) were epithelial serous OC (Clear cells: 20.0% N:5; Endometrioid: 12.0 N:3; Mucinous: 8.0% N:2; Endodermal sinus: 4.0% N:1; Granulosa cell: 4.0% N: 1). Most of the patients were diagnosed in advanced tumoral stages (III-IV: 68.0%, N:17). Only 7 patients received neoadjuvant chemotherapy (28%) previous to surgery. Surgical cytoreduction was made by laparotomy in most cases (84.0% N:21) preferred to laparoscopy (N:4, 16.0%). Complete surgical cytoreduction was achieved in 82.0% of cases (N:19). Surgical approach included: bilateral oophorectomy (96.0%, N:24), hysterectomy (82.0% N:19), omentectomy (96% N:24), appendectomy (60.0% N:15), peritoneal biopsy (92.0% N: 23), peritonectomy (60.0% N:15), liver resection (40.0% N:10), intestinal resection (32.0% N:8), splenectomy (N:4), colectomy (N:2). Pelvic and paraaortic lymphadenectomy was performed in 56.0% of

cases (N: 14). Mean time of hospitalization was 7.84 days (4.16 SD; max:15, min:1). Few patients had complications: surgical urologic complications: 12.0% N:3; postsurgery complications: urological (N:2), abdominal wall infection (N:2), eventration (N:1), vascular (N:1).

Conclusion* Ovarian cancer in premenopausal women is a threatening condition, diagnosed in most cases in advanced stages, that needs a combination of chemotherapy and surgery. Surgical approach must be aggressive in order to achieve a complete resection of the tumor.

491 THE IMPACT OF ERAS IN CYTOREDUCTION FOR ADVANCED OVARIAN CANCER

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Introduction/Background* Complete cytoreduction is the cornerstone of the treatment for advanced ovarian cancer (AOC). To achieve this goal multiple organ resection is required, with an important impact on the patient's overall health. These patients may benefit from the implementation of enhanced recovery after surgery (ERAS). The aim of this study is to evaluate the possible benefit in the patient's postoperative morbidity.

Methodology Retrospective analysis of women with AOC from the 1st Department of Obstetrics & Gynecology AUTH at "Papageorgiou" Hospital (ESGO Certified Center for AOC), 2014 – 2019. From 2014 to 2016 conventional management (CM) was applied, while from 2017 to 2019 patients were managed with ERAS protocol. Patient & tumor characteristics, treatment options and follow-up information were collected. Primary outcomes were ICU admittance, post-operative complications (Clavien – Dindo classification) and hospitalization.

Result(s)* 142 patients met the inclusion criteria. Patients underwent either primary debulking surgery (PDS) or interval debulking surgery (IDS). 84 patients were treated with conventional management and 58 with ERAS protocol. The mean age for the ERAS group was 60 ± 13 vs. 61 ± 13 years old for the CM group (p=0.8315). Furthermore, there was no difference between the type of surgery operation duration between the 2 groups. (CM group: 210min vs. ERAS group: 240min, p=0.1497/CM group: 50% PDS – 50% IDS vs. ERAS group: 38% PDS – 62% IDS, p=0.1554). However, the occurrence of ICU admittance (32% vs. 14%, p=0.01263), overall postoperative complications (32 vs. 22.6, p=0.004) and hospitalization (9 vs. 7 days, p<0.001) were significantly reduced by the implementation of the ERAS protocol. Last but not least, concerning 30day mortality: 3 patients died during conventional management, while only 1 died during ERAS protocol.

Conclusion* The implementation of the ERAS program in the management of AOC improves patient's postoperative morbidity, reducing the interval time between surgery and systematic therapy. Less need for the ICU and fewer days in the hospital can decrease healthcare costs in high-volume gynecological – oncological centers.

494 MAINTENANCE OLAPARIB IN PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER: A COMPREHENSIVE CANCER CENTRE'S EXPERIENCE

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Introduction/Background* The majority of newly diagnosed patients with ovarian cancer respond to platinum-based chemotherapy (ChT). However, most patients eventually relapse and will need subsequent treatment. Olaparib is a poly ADP-ribose polymerase inhibitor that has shown efficacy as maintenance treatment in patients with platinum-sensitive relapsed ovarian cancer.

Methodology We retrospectively evaluated patients with platinum-sensitive relapsed ovarian cancer treated with maintenance olaparib (400mg bid, capsules or 300mg bid, tablets), who previously received ≥2 platinum-based ChT regimens and had a partial or complete response to last platinum-based regimen. All patients were BRCA 1/2 mutated (germline and/or somatic). Study endpoints were progression-free survival (PFS), overall survival (OS), overall response rate and adverse events.

Result(s)* Between May 2016 and December 2020, 21 patients were treated with olaparib. Median age was 55 years (range 44-69), and all had ECOG ≤1. The majority had an ovary primary tumour location (81.0%) and serous histology (85.7%). Thirteen patients (61.9%) had partial response to most recent platinum-based ChT, and eight (38.1%) had complete response. Median follow-up time was 18.3 months (1.8-60.3), with 13 patients alive. Median PFS was 8.3 months (CI95% 6.0-10.6). Median OS was not reached. Overall response rate was 19.0% (4 complete responses) and 16 patients had stable disease; hence, 95.2% benefited from treatment with olaparib. There were no differences in PFS by number of prior platinum regimens, response to last platinum-based ChT, time-to-progression after penultimate platinum-based ChT (>6-12 vs >12 months) or BRCA mutation type (germline vs somatic). Most adverse events reported were grade 1 or 2 and were mainly nausea and haematologic toxicity. Grade 3 and 4 adverse events occurred in six (28.6%) patients and were: anaemia, neutropaenia and nausea. Thirteen (61.9%) patients suspended olaparib, 12 (57.1%) due to disease progression and one due to her own will. There were no patients that suspended treatment due to toxicity.

Conclusion* Our results confirm the effectiveness and safety of maintenance olaparib in real-world setting. This treatment is feasible in the clinic and well tolerated, with manageable toxicity.

498 METASTATIC HIGH GRADE SEROUS OVARIAN CANCER HAS AN IMMUNE EXCLUDED TUMOR MICROENVIRONMENT – EXPLAINING FAILURE OF IMMUNOTHERAPY TO DATE

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