

**#627 FERTILITY Sparing SURGERY IN CHILDREN WITH OVARIAN MASSES**

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10.1136/ijgc-2023-ESGO.620

**Introduction/Background** Ovarian masses (whether benign or malignant) are rare in children. They count 2.6 cases per 100,000 girls per year and 50% of them are malignant. Because of the young age of the patient the decision for radicality of the surgery is usually difficult.

**Methodology** We present retrospective analysis of children and adolescent girls with adnexal mass operatively treated from 2013 to 2022 in University Medical center Ljubljana, where we operated all of ovarian malignant tumors in children in Slovenia. Clinical presentation, intraoperative procedures, histopathologic findings and postoperative follow up were collected from medical records and analyzed.

**Results** In period of 10 years 69 young patients with ovarian mass were operated, 15 of them were malignant, 54 had benign histology. Median age of the patients with malignant tumors was 14,2 years, with benign tumors was 16,1 years. In the malignant group there were 6 borderline tumors, 2 immature teratomas, 3 dysgerminomas (2 of them siblings with Swayer syndrom), 2 yolk sac tumors, 1 sclerosating stromal tumor and 1 Sertoli Leydig cell tumor. Benign masses were divided into 19 mature teratomas, 6 paraovarian cysts, 12 cystadenomas (6 serouse, 6 mucinous), 3 cistadenofibromas (2 serous, 1 mucinous), 1 endometrioma, 1 ovarian fibroma and 14 functional cysts. 28 from the patients with benign masses had torsion. All the patients had fertility sparing surgery. Four patients with malignant histology had adjuvant chemotherapy (2 dysgerminomas and 2 yolk sac tumors), one patient with yolk sac tumor had early relapse and second line chemotherapy. Until now all of the patients are in remission.

**Conclusion** Fertility sparing operation in children with ovarian mass is feasible and could be the treatment of choice, as it preserves reproductive potential.

**Disclosures** Authors have no disclosures.

**#641 GERMLINE AND SOMATIC GENETIC PROFILES OF EPITHELIAL OVARIAN CARCINOMA PATIENTS SENSITIVE AND RESISTANT TO PLATINUM DERIVATIVES ESTIMATED BY TARGETED DNA SEQUENCING**

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10.1136/ijgc-2023-ESGO.621

**Introduction/Background** Epithelial ovarian carcinoma (EOC) is among the most fatal gynecological malignancies in the world. This is due to the late diagnosis and frequent therapy

resistance. This study aimed to provide target DNA sequencing of 144 genes with potential involvement in resistance of EOC in surgically resected patients. Results were associated with clinical data and survival and validated using data from the whole exome sequencing (WES) and databases.

**Methodology** Target DNA sequencing of 144 gene panel in 48 pairs of EOC tumor and blood samples. The examined preselected 144 target gene panel was composed of the most important oncogene genes in EOC, interacting genes as well as genes associated with the risk of EOC and resistance development. Comparison with WES of the next 50 blood and tumor tissue sample pairs, evaluation of platinum resistance status, and complete follow up. Validation of crucial variants using TCGA and GENIE datasets.

**Results** Germline genetic profile revealed as the most mutated genes RAD51B (20%), BRCA1/2 (14/9%) and DNAH14 (11%). Analysis of somatic variants revealed as the most mutated genes TP53 (98%), CSMD1/2/3 (19/21/35%), and CFTR (23%). Mutation exclusivity was found for germline variants in RAD51B (p=0.002), BRCA1 (0.015) and DNAH14 (0.036) and somatic variants in TP53. High TP53 mutation rate in patients with high grade serous ovarian carcinoma was confirmed by WES and TCGA and/or GENIE datasets analysis. In contrast to WES, TP53 splicing mutations were covered to a higher extent by targeted sequencing.

**Conclusion** Taken together, we assessed specific germline and somatic profiles of EOC patients using targeted DNA sequencing with potential to be associated with sensitivity to therapy especially in TP53 gene regions.

**Disclosures** This study was supported by running projects of the Czech Health Research Council grant no. NU20-09-00174 and Cooperatio program no. 207035, 'Maternal and Childhood Care' by 3rd Faculty Medicine, Charles University.

**#645 THE IMPACT OF ADVANCED CHEMOTHERAPY LINES ON SURVIVAL IN RECURRENT EPITHELIAL OVARIAN CANCER: SINGLE CENTRE EXPERIENCE**

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10.1136/ijgc-2023-ESGO.622

**Introduction/Background** About 80% of patients with epithelial ovarian cancer (EOC) relapse in the first 2 years from diagnosis. Data on treatments after the second line are poor and based on small retrospective studies. Despite benefits after the third line are unclear, some patients are heavily treated with increased toxicities and hospitalization. Aim of the study is to investigate survival outcomes of EOC patients treated with ≥ three chemotherapy lines and to identify predictive factors of response to treatments, in order to adequately select patients who could benefit from subsequent chemotherapy lines.

**Methodology** Recurrent EOC patients received ≥ three lines of chemotherapy at Mauriziano Hospital of Turin between 2016 and 2022 were retrospectively analyzed. Progression-free survival (PFS) and overall survival (OS) were assessed according to chemotherapy lines. Prognostic factors associated with chemotherapy responses were investigated.

**Results** 68 patients and 180 lines of treatment were evaluated. OS progressively decreased with subsequent chemotherapy lines from 17 to 8 months, while PFS was not