441 CHEMOTHERAPY RESPONSE SCORE: CORRELATION WITH PREOPERATIVE SEROLOGICAL AND RADIOLOGICAL ASSESSMENT OF RESPONSE AND CLINICAL IMPLICATIONS IN OVARIAN CANCER PATIENTS

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Introduction/Background The 3-Tier Chemotherapy Response Score (CRS) was developed to quantify the response after neoadjuvant chemotherapy (NACT) in high-grade serous ovarian cancer patients undergoing interval debulking surgery. CRS3 (optimal response) identifies patients with a longer progression-free (PFS) and overall survival (OS) compared to patients with a CRS1/2 (no or minimal response/partial response). We critically evaluated the clinical value of CRS and compared its predictive power to standard serological (CA125) and radiological response in patients with advanced epithelial ovarian cancer.

Methodology A retrospective analysis of 277 patients, who received primary chemotherapy for advanced epithelial ovarian cancer was performed. CRS, serological, and radiological findings, and pathological complete remission (pCR) were correlated to PFS and OS.

Results Only 62.1% (172/277) patients treated with NACT could be assessed by CRS, as the CRS score can only be determined in patients that undergo interval debulking surgery, have a representative biopsy of the omentum, and have tumours with a high-grade serous histology. In patients with CRS3 (n=50) a longer median PFS and OS was observed compared to patients with CRS1/2 (n=122) (31.2 vs. 18.9, P<0.001; 55.0 vs. 36.1 months, P=0.050). Patients with serological and radiological complete response showed longer PFS (23.0 vs. 14.4, P=0.011; 21.4 vs. 9.6 months, P<0.001) and OS (49.5 vs 29.0, P=0.003; 45.0 vs. 12.9 months, P<0.001). Patients with a pCR had the best median PFS (52.8 months), even compared to non-pCR CRS3 (27.8 months).

In the total study cohort, serological and radiological complete response was better at predicting PFS (hazard ratio 2.23 and 2.77). Radiological complete response was better at predicting OS (hazard ratio 2.34).

Conclusion In this study, evaluation of response to chemotherapy by CRS was not superior to conventional methods (CA125 or radiology). Independent of the used evaluation method, response to NACT was predictive of PFS and OS. Conventional methods should even be considered more clinically relevant, as these can be applied to all ovarian cancer patients receiving upfront chemotherapy, while only 62% of patients in our cohort could be assessed by CRS. Conventional response assessment, based on radiology and/or CA125, is used to evaluate whether a patient should be offered IDS and can, similar to CRS, be used to predict PFS and OS. As CRS has no influence on the treatment of patients undergoing NACT for ovarian cancer, the added value of response assessment using CRS is negligible.

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462 SAFETY OF BEVACIZUMAB THERAPY IN ELDERLY PATIENTS WITH OVARIAN CANCER: AN EXPERIENCE FROM THE DEPARTMENT OF GYNAECOLOGIC ONCOLOGY IN THE UNIVERSITY HOSPITAL CENTRE ZAGREB

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Introduction Bevacizumab is a recombinant humanized monoclonal antibody to vascular endothelial growth factor. It is an effective treatment for epithelial ovarian cancer, both in primary and recurrent disease. The incidence of ovarian cancer increases with advancing age. Despite the high prevalence of the ovarian cancer in elderly, the management of these patients is often less aggressive than that in younger patients. Our aim was to investigate the safety of bevacizumab administration in patients older than 65 years.

Methodology Retrospectively, we have analysed the medical data of 65 patients with epithelial ovarian, fallopian tube, or primary peritoneal cancer who started treatment with bevacizumab in primary advanced and in first relapse of the disease at the Department of Gynaecologic Oncology in the University Hospital Centre Zagreb in the period from April 2017 to December 2018. Patients are divided in two categories according to age: group 1 (>65 years) and group 2 (≤65 years).

Results Our analysis included 65 patients:18 (27,7%) patients in group 1 compared with 47 (72.3%) in group 2. Bevacizumab have been administered to 38 (58.5%) patients as first-line treatment and to 27 (41.5%) patients as second-line treatment. The median age was 70 (range 66–76) years in group 1 and 55 (range 35–65) in group 2. ECOG performance status 0 had 44.7% of patients in group 2 compared with only 33.3% in group 1. At the time of diagnosis, elderly patients had presented with at least one comorbidity in 66.6% of the cases, compared with 40.4% in group 2. The median number of cycles of bevacizumab was 9 in elderly patients and 17 cycles in group 2. Among those patients receiving bevacizumab in the first-line setting, median progression free interval (PFI) was 12 months in younger patients versus 7 months in elderly patients. Similarly, among those receiving bevacizumab in the second-line setting PFI was 9 months in younger patients versus 1 months in elderly patients. The occurrence of adverse events did not increase in elderly patients; 51.1% of patients

in group 2 reported some adverse events versus only 27.8% in elderly patients.

Conclusion In Croatia, from February 2017 we have opportunity to treat patients with epithelial ovarian, fallopian tube, or primary peritoneal cancer with bevacizumab in the first-line and second-line settings. Our experience in treating patients with bevacizumab shows good results with acceptable toxicity and our findings suggest that its use in the elderly population should be considered as safe and manageable.

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470 MALIGNANT OVARIAN TUMORS IN PREGNANCY: A CASE SERIES

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Introduction/Background Adnexal masses are commonly detected during routine fetal ultrasound screening. Nonetheless, since malignant adnexal tumors rarely occur in pregnancy, limited data is available regarding the management of this condition. Herein, we describe a series of ovarian cancer cases diagnosed and managed during pregnancy.

Methodology This case series describes 22 pregnant patients with ovarian cancer who were referred to the gynecology oncology department of an academic hospital within 6 years. Demographic and clinical characteristics of cases were gathered in checklists. Surgical staging of the tumors as well as disease-free survival (DFS) and overall survival (OS) were determined in all patients.

Results The pathologic subtype in 45.4% of the patients was epithelial. In another 45.4%, the subtype was germ cell, and the remaining 9.1% had sex-cord tumors. In epithelial tumors, the most common subtype was serous adenocarcinoma (60%). Most of the patients had a palpable mass during physical examination (72.7%) or an adnexal mass in ultrasonography (95.4%). We performed fertility-preserving surgery on 14 patients (63.6%) and 13 (59%) patients received chemotherapy. The recurrence rate was 22.7% and DFS and OS were 56% and 82%, respectively in a 6-year follow-up.

Conclusion Ovarian malignancy is a rare event during pregnancy and its management requires an experienced multidisciplinary approach. Further studies with larger sample sizes are required to provide more insight into the management of ovarian cancer throughout pregnancy.

Disclosures None.

487 LIQUID BIOPSY FOR DIAGNOSING OVARIAN CANCER-QUANTIFICATION OF CELL-FREE DNA AND P53 MUTATIONAL ANALYSIS

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Introduction/Background Circulating tumor DNA found in women with malignancy, enters plasma due to lysis of cells at the interface between the primary tumor and the circulation. The primary objective of this study was to isolate and quantify cell-free DNA (cfDNA) from peripheral blood, analyze p53 mutations and correlate with tumor burden in epithelial ovarian malignancy. Secondary objective was to study the degree of agreement between cfDNA p53 mutations and tissue p53 immunohistochemistry.

Methodology This prospective case-control study was carried out over 18 months from November 2018 to April 2020 at a tertiary teaching institution. Considering the exploratory nature of the study, study group (n=20) comprised women with epithelial ovarian malignancy. Control groups were women with borderline tumors (n=10) and benign epithelial ovarian tumors (n=10). 58 women who were treatment naïve and admitted for surgery entered the study but only those with a final histopathology of epithelial ovarian tumor (malignant, borderline and benign) were included. Peritoneal carcinomatosis index (PCI), surgical complexity score and cytoreductive score was calculated in women undergoing primary cytoreduction.

Plasma samples for cfDNA was collected just before surgery and stored at -20oC. cfDNA was extracted from plasma serum using a DNA isolation kit and quantified with Nanodrop Spectrophotometer. ARMS PCR was used to detect a point mutation in Exon 8, codon 239 of p53 using primer pairs. p53 immunostaining was performed on tissue samples using monoclonal antibody directed against p53. Statistical analysis was done using SPSS version 21.

Results In women with malignant ovarian cancer isolated cfDNA was highest (1330 ng/mL) in comparison to those with benign or borderline ovarian tumors (748.5 ng/mL and 448.5 ng/mL, respectively) reaching statistical significance, $p=0.023$. Quantity of cfDNA also correlated well with the histopathological grade of the tumor and stage of the disease, $p<0.05$.

Analysis of cfDNA p53 mutation in exon 8 showed that 55% of the women diagnosed with malignant ovarian tumor harboured this mutation ($p=0.043$). Correlation of tissue p53 with cfDNA p53 mutation was statistically significant, $p=0.007$. All women with malignant ovarian tumor in whom cfDNA p53 mutation was present at codon 239 of exon 8 stained positive for tissue p53 mutation.

Conclusion cfDNA p53 mutation in exon 8 was detected at higher frequency in women with malignant epithelial ovarian cancer. Significant correlation was seen between tissue p53 and cfDNA p53 mutation suggesting that mutational analysis of cfDNA could act as biomarker for the diagnosis of ovarian tumors.

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