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

1Jan Philipp Ramspott, 2Thais Baert, 3Michelle Louise MacInnis, 4Alexander Trant, 5Kai-Uwe Waltering, 6Sebastian Heikaus, 7Philipp Harter, 8Andreas du Bois, 9Ev. Klinikum-Essen-Mitte; Department of Gynecology and Gynecologic Oncology; 10Ev. Klinikum-Essen-Mitte, Department of Gynecology and Gynecologic Oncology, Essen, Germany; 11Ku Leuven, Department of Oncology, Laboratory of Tumor Immunology and Immunotherapy, Immunovar Research Group, Leuven; 12St Mary’s Hospital, Manchester University Hospitals NHS Trust; Department of Gynaecological Oncology; 13Ev. Klinikum Essen-Mitte; Department of Radiology

10.1136/ijgc-2020-ESGO.140

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 internal 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.

Disclosures JPR has no conflict of interest to declare.