validated assays to assess HRD are BRCA-mutation (BRCAmut) analysis and genomic instability scores (GIS) designed to detect genomic ‘scars’ in tumor DNA. However, these tests require large samples and yield non-contributive (NA) in 15% of cases. Bevacizumab and PARPi are approved as maintenance therapy regardless HRD status and the optimal maintenance strategy in case of non-contributive HRD test is a major unmet medical need. We aim to report the clinical characteristics and behavior under chemotherapy of NA HGOC pts.

Methodology This is a retrospective analysis of all pts tested for GIS by myChoice HRD Plus assay (Myriad Genetic Laboratories). Pts included presented HGOC with advanced FIGO III/IV diseases and treated according to guidelines. GIS was performed on baseline pretreatment samples, preferably. Platinum-free interval (PFI) was calculated from the date of last platinum-based chemotherapy to the date of relapse.

Results 210 patients were recruited: 100 were classified HR negative (HRD-, score <42), 81 HRD positive (HRD+, score ≥42) and 29 NA (14%). HRD+ cohort was significantly enriched with BRCAmut pts (21/81 = 27%) compared to HRD- and NA. In the NA cohort, median age was 64 years, 86% had an high-grade serious tumor and 10% presented germline BRCAmut. With a median follow-up of 39 months, median PFI in the overall population was 19.8 months (95% CI 16.7–24.4). In the HRD+, HRD- and NA cohorts (excluding BRCAmut), median PFI were 34.0 (95% CI 16.7–64.4), 14.6 (95% CI 12.0–20.9) and 37.3 months (95% CI 21.0–NA) respectively (P=0.004).

Conclusion Our results suggest that patients with NA GIS results behave like HRD+ tumors harboring high platinum-sensitivity and therefore may benefit from PARPi maintenance. The reason for non-contributivity in the first place is unknown and may explain these observations.

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Figure 1  Progression-free survival and overall survival in HR patients

Conclusion NACT appeared to improve pre-treatment patient’s characteristics that may account for an increase peri-operative morbidity. A comparison between the analyzed population and a statistically matched group of HR and LR patients undergoing primary debulking surgery is in due course.

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Abstract 2022-RA-1473-ESGO

Randomized phase II clio study on olaparib monotherapy versus chemotherapy in recurrent ovarian cancer – Results of the Leuven HRD test

Introduction/Background Poly(ADP-ribose)-polymerase inhibitors (PARPi) have changed the treatment landscape for high grade serous ovarian cancer. The CLIO trial (NCT02822157) evaluated olaparib (OLA) single-agent therapy versus physician’s choice chemotherapy (CT) in recurrent epithelial ovarian cancer. Current available tests for homologous recombination deficiency (HRD) have been able to identify possible responders to PARPi, but improvements to these tests are necessary and validation in clinical trials is key.

Methodology With Leuven HRD test we provide an academic laboratory-developed method for HRD testing in ovarian cancer. The test was designed on DNA tumor samples of the biobank of University Hospitals Leuven and showed its predictive effect for OLA efficacy in the PAOLA-1/ENGOT-ov25 study (SGO 2022). Here we report the results of Leuven HRD test (LOH+TAI+LST) in the CLIO trial. Results will be compared to Myriad myChoice DX on the same samples.