2022-RA-1058-ESGO DEVELOPING INFRASTRUCTURE FOR MOLECULAR PROFILING FOR ALL IN OVARIAN CANCER (DEMO)

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Introduction/Background The lack of patient engagement and biopsy quality could both reduce the number of successful molecular tests performed after the diagnosis of ovarian cancer. DEMO is a multi-centre quality improvement study that aims to improve the uptake and success rates of tumoural and germline molecular testing in ovarian cancer.The two lead sites have vastly different patient demographics. One in 7 (15%) women diagnosed in Birmingham are non-Caucasian with high number of patients requiring interpreters for their consultations, whilst patients diagnosed in Cambridge are mostly Caucasian and fluent in English.

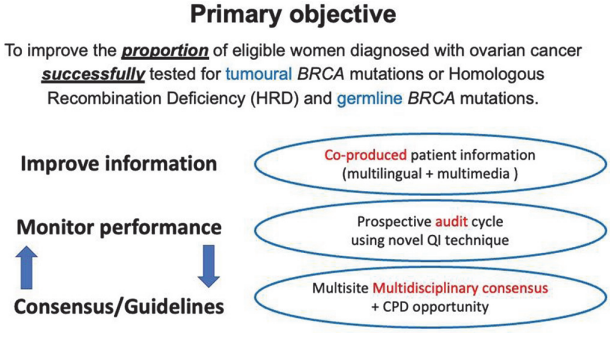
Methodology The three components of DEMO include:

1) the establishment of a patient advisory group to co-produce a multimedia, multilingual patient information package to support informed decision making

2) the use of improvement methodology to analyse existing diagnostic pathways

3) the development of a multidisciplinary consensus guideline to improve the current biopsy pathways for molecular profiling.

Results Our initial retrospective audit (n=75; January-August 2021) demonstrated high tumoural (BRCA or Homologous Repair Deficiency) testing failure rates of 25% (3/12) and 35% (11/31) of samples from image-guided biopsies and post-chemotherapy resections, respectively. A prospective audit pathway has been agreed to inform future practice.In addition, the first patients advisory group discussion in June 2022 has provided a qualitative narrative on patients' perceptions on molecular testing and explore how patients would like such complex information conveyed to support patient information package development.



Abstract 2022-RA-1058-ESGO Figure 1

Conclusion Supporting informed decision making for all and establish auditable biopsy pathways are crucial for the implementation of molecular profiling to improve ovarian cancer care.

2022-RA-1063-ESGO THERE IS NO BENEFIT FOR PREOPERATIVE HYPERHYDRATION BEFORE CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERTIONEAL CHEMOTHERAPY (HIPEC) WITH CISPLATIN WHEN COMBINED WITH SODIUM THIOSULFATE

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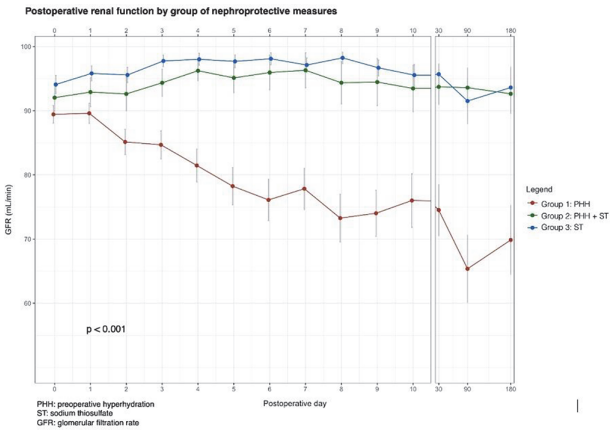
Introduction/Background Cytoreductive surgery (CRS) associated with hyperthermic intraperitoneal chemotherapy (HIPEC) is an essential treatment for peritoneal carcinomatosis (PC). Cisplatin is known to cause acute renal failure (ARF) after systemic or intraperitoneal administration. After accumulation, it can lead to nephrotoxicity in one-third of intravenous prescriptions and up to 40% of ARF for the IP route, with progressive and irreversible chronic renal failure. In addition to preoperative hyperhydration, sodium thiosulfate (ST) is a well-known pharmaceutical agent and has been used in the prevention of Cisplatin-induced toxicity, particularly renal toxicity. The objective of our study was to evaluate the interest in preoperative intravenous hydration alone or in combination with ST to prevent nephrotoxicity induced during intraperitoneal Cisplatin in patients who underwent CRS with HIPEC.

Methodology Retrospective single-tertiary-center analysis of all consecutive patients treated by CRS with Cisplatin-based HIPEC between January 01, 2015, and July 30, 2020. All types of PC were included. There were three consecutive periods of study corresponding to 3 different treatments. A first group was treated with preoperative hyperhydration alone (group 1 – PHH), a second one with preoperative hyperhydration (3L/24 h of Ringer-Lactate) with the addition of ST (group 2 – PHH + ST), and a third one with ST alone (group 3 – ST).

Results Period study included 230 consecutive patients underwent. Median age was 59 years (interquartile range 49 – 68 years), with 76% women. Higher rate of complete cytoreduction (CC0) were achieved in PHH + ST and ST alone (92% and 97%, respectively, vs 77%, $p < 0.001$). PHH + ST and ST alone had better postoperative renal function without acute injury compared to group 1 ($p<0.001$).



Abstract 2022-RA-1063-ESGO Figure 1

Conclusion In addition to the nephroprotective benefit, ST also appears to be associated with better cytoreduction results. Hyperhydration does not provide any additional benefit.

2022-RA-1064-ESGO UNRESECTABLE PERITONEAL METASTASES FROM STAGE III OVARIAN CANCER TREATED WITH BIDIRECTIONAL APPROACH OF PRESSURIZED INTRAPERITONEAL AEROSOL CHEMOTHERAPY (PIPAC) AND SYSTEMIC CHEMOTHERAPY MAY LEAD TO SECONDARY COMPLETE CYTOREDUCTIVE SURGERY: A PILOT STUDY

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Introduction/Background Ovarian cancer (OC) is the leading cause of death among women diagnosed with gynaecological cancer. The natural course of the disease is progression to peritoneal metastases (PM), a high rate of platinum chemoresistance, and a low overall survival rate, with no effect of a screening system. This background explains the interest in locoregional treatment of peritoneal disease which has shown a benefit in terms of overall and progression-free survival for selected patients treated with complete cytoreductive surgery. This pilot study aimed to investigate the feasibility and safety of secondary complete cytoreductive surgery after a bidirectional treatment of Pressurized IntraPeritoneal Chemotherapy (PIPAC) and systemic chemotherapy.

Methodology A retrospective single-tertiary-canter pilot study with unresectable stage III serous ovarian cancer patients treated by induction chemotherapy based on carboplatin and paclitaxel combined with a minimum of 3 PIPAC, between May 01, 2019 and October 30, 2021. All patients had a diagnostic laparoscopic exploration. After 3 cycles of chemotherapy PIPAC was initiated if unresectable disease without extraperitoneal metastases including loco-regional lymphadenopathy. Resectable disease after 3 cycles of bidirectional treatment was eligible for CRS. Hyperthermic IntraPeritoneal Chemotherapy (HIPEC) was done after complete CRS without the residual disease.

Results All patients completed at least 3 PIPAC (n=7, 89%) in a bidirectional approach, and one patient had completed 4 PIPAC. Most patients (n=6, 75%) were secondarily treated by CRS-HIPEC. In two patients the disease remained unresectable and had to be changed for second-line chemotherapy. Median PCI during surgery was 17 (IQR 2.3). The postoperative course was uneventful regarding severe complications.

Conclusion PIPAC is safe and feasible in a neo-adjuvant intent for unresectable ovarian cancer patients and may lead to complete CRS.

2022-RA-1066-ESGO METABOLOMICS SHOWED LSR PROMOTED LIPID METABOLISM IN EOC

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Introduction/Background Previously, we identified lipolysis-stimulated lipoprotein receptor (LSR) as a new target of epithelial ovarian cancer (EOC), and we reported anti-tumor effect of our newly developed monoclonal antibody (mAb) against LSR-positive EOC cells in vitro and in vivo. We also demonstrated that in high-fat diet (HFD) mouse, anti-LSR mAb showed strong anti-tumor effect. In this study, we performed metabolomic analysis using HFD mouse serum and analyzed metabolic pathway of EOC via LSR.

Methodology We established HFD mouse model and evaluated the tumor growth of LSR-positive EOC cell line and anti-tumor effect of anti-LSR mAb in this model. Moreover, we obtained serum samples from normal-diet (ND) and HFD mouse, and performed metabolomic analysis. Finally, we analyzed lipid metabolites profile of HFD mouse compared to ND mouse.

Results Tumor growth of LSR-positive EOC cells was significantly promoted in HFD mouse ($p < 0.05$) and anti-LSR mAb showed stronger anti-tumor effect in HFD mouse than that in ND mouse (57.2% and 26,6%, respectively). Metabolomic analysis using HFD and ND mouse serum detected 210 metabolites and The Human Metabolome Database provided comprehensive information of 83 metabolites. Principal component analysis and cluster analysis using these data showed obviously different metabolic properties between ND and HFD mouse. Partial Least Squares-Discriminant Analysis showed significantly high score of lipid metabolites including a-Tocopherol and cholesterol.

Conclusion Metabolomics showed the activation of lipid metabolism in HFD mouse and suggested that LSR contributed tumor growth via lipid metabolism.