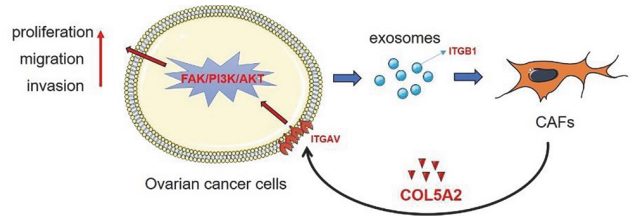
and secretion of COL5A2.(4) COL5A2 can activate FAK/PI3K/AKT signaling pathway of ovarian cancer cells by combining with ITGAV on the surface of ovarian cancer cells, thus promoting the proliferation, migration and invasion of ovarian cancer.



Abstract 2022-RA-830-ESGO Figure 1

Conclusion Ovarian cancer cells activate CAFs and promote their expression and secretion of COL5A2 by secreting exosomes carrying ITGB1. COL5A2, which is widely expressed and secreted, can act as the signal molecule feedback on ovarian cancer cells to promote the proliferation, migration and invasion of ovarian cancer.

2022-RA-835-ESGO AGO-OVAR 2.34/MIROVA: A RANDOMIZED PHASE II TRIAL OF MIRVETUXIMAB SORAVTANSINE (IMGN853), IN FOLATE RECEPTOR ALPHA (FRα) HIGH RECURRENT OVARIAN CANCER ELIGIBLE FOR PLATINUM-BASED CHEMOTHERAPY

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Introduction/Background Following implementation of targeted therapies to first-line treatment, repeated use of bevacizumab and/or PARPi is often not approved nor has been conclusively proven efficacious for all patients with recurrent ovarian cancer. Accordingly, new combination partners for platinum-based chemotherapy become crucial to improve outcome. For the antibody-drug conjugate, Mirvetuximab soravtansine (MIRV), containing a folate receptor alpha(FRα)-binding antibody, patients with high FRα expression according to PS2+ Scoring (cut-off: ≥75% of tumor cells with FRα membrane staining and ≥2+ intensity) had significant progression-free survival (PFS) improvements (hazard ratio: 0.55) compared to mono-chemotherapy (median PFS 5.6 vs 3.2 months,P=0.015) in the phase III FORWARD I trial. Preliminary data for combination of MIRV with carboplatin from the Phase Ib FORWARD II trial, an ORR of 71% in 17 patients with a median PFS of 15 months, and ORR of 80% in the FRα medium/high (>50% PS2+) subset of 10 patients was noted. MIRV is well-tolerated with a manageable safety profile.

Methodology Eligible patients for this multicenter, randomized, two-arm, open-label, comparative phase II trial have recurrent, FRα high epithelial cancer of the ovary, fallopian tube or peritoneum and measurable disease. Patients are eligible for platinum-based chemotherapy, had at least one prior chemotherapy, but are not candidates to receive bevacizumab. Patients with wildtype BRCA1/2 mutation status and patients with a deleterious mutation and prior PARPi therapy can be included. Following pre-screening for high FRα expression, 136 patients are randomized (1:1) to a) experimental arm: Carboplatin + MIRV 6 mg/kg IV d1 (6 cycles q21d) followed by MIRV monotherapy until disease progression or b) control arm: Platinum-based chemotherapy (6 cycles) followed by PARPi or standard of care. The primary endpoint PFS will be assessed by modified RECIST 1.1. Key secondary endpoints include overall survival, ORR, and quality of life. NCT04274426

Results Enrolment started.

Conclusion Trial in Progress.

2022-VA-836-ESGO ROBOT ASSISTED LAPAROSCOPIC STAGING SURGERY IN EARLY STAGE OF OVARIAN CANCER

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Introduction/Background Minimally invasive staging surgery is considered as a new standard surgical modality in early stage ovarian cancer. Especially, Robot-assisted surgery is an advanced form to overcome the limitations of conventional laparoscopic surgery, providing steady three-dimensional vision and articulated instruments without tremor and a shorter learning curve. This video aims to demonstrate the robot assisted laparoscopic staging surgery in early stage of ovarian cancer.

Methodology A 54 years old woman presented with an ovarian cyst suspected to fibroma or granulosa cell tumor on CT scan and elevated CA 125 level. And she was diagnosed with ovarian malignancy, serous carcinoma, after diagnostic laparoscopic bilateral salpingo-oophorectomy. PET-CT scan showed no enlarged lymph node nor abnormal finding in peritoneal cavity. To determine FIGO stage of ovarian cancer, we performed Robot assisted staging surgery including total laparoscopic hysterectomy, omentectomy, bilateral pelvic lymph node dissection and para-aortic lymph node dissection (level 4). We used the da Vinci Xi multi-port surgical platform (Intuitive Surgical, Inc., CA, USA) and three robotic instruments: fenestrated bipolar forceps, monopolar curved scissors and prograsp forceps (Intuitive Surgical).

Results The final diagnosis was FIGO stage IA of high grade ovarian serous carcinoma (grade 3). The total operation took 375 minutes and the patient was discharged in five days after surgery without postoperative complications.

Conclusion Robot assisted laparoscopic staging surgery is feasible and safe with early ovarian cancer. Additionally, prospective randomized clinical trials will be able to evaluate the clinical benefits of robot-assisted surgery.

2022-RA-837-ESGO CHARACTERIZATION OF LONG-TERM SURVIVOR AND MAINTENANCE THERAPY IN RELAPSED OVARIAN CANCER (CAROLIN)- INTERGROUP STUDY NOGGO/A-AGO

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Introduction/Background Background:

Long-term survivors (>5 years after primary diagnosis) with ovarian cancer (OC) constitute a rare, not well-investigated cohort among OC patients. The recent Expression IV study of the Northeast German Society of Gynecologic Oncology (NOGGO) on patients' preferences and expectations regarding maintenance therapy has shown that patients primarily choose maintenance therapy to improve therapeutic outcome. Only secondarily do they opt for maintenance therapy to improve their quality of life (QoL). Furthermore, approximately 30% of patients prefer an oral administration and over 50% would tolerate a 2-year administration of maintenance therapy if the delay of tumor progression could exceed over six months. Based on these results, this prospective study characterizing the long-term experience of patients with OC undergoing maintenance treatment was planned. The objective of this trial is to prospectively evaluate the long-term survival multifactorial experience in patients undergoing maintenance treatment. In particular, this study aims to identify disease, patient, and treatment factors associated with long-term survival.

Methodology Trial design:

Enrollment of 300 patients with platinum-sensitive relapsed OC who are eligible for PARP inhibition in up to 15 sites in Germany and Austria. Treatment decision has to be determined independently by the physician before inclusion of the patients into the study. The niraparib treatment should be planned according to current SmPC. Patients can be included after therapy decision of Niraparib treatment (decision to start Niraparib therapy must have been taken independently) and for up to 3 months after start of Niraparib therapy. During this study data will be collected at baseline and every 3 months for up to 7 years follow-up (long-term survival with every 6 months visits) or patient's death whatever comes first. Since 04/2021 13 patients with maintenance therapy were recruited within the study 'CAROLIN'.

Results /

Conclusion /

2022-RA-840-ESGO PROGNOSTIC IMPACT OF MOLECULAR PROFILES AND MOLECULAR SIGNATURES IN CLEAR CELL OVARIAN CANCER

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Introduction/Background Ovarian Clear Cell Carcinomas (OCCC) are characterized by a low response to chemotherapy and a poor prognosis in advanced stages. Several studies have demonstrated that OCCC is not a uniform entity. Previously, we have identified four potential molecular subtypes based on the mutational status of *ARID1A* and *PIK3CA*. This study aimed to examine and describe the association between different molecular profiles, Tumor Mutational Burden (TMB), and molecular signatures with the clinical outcome in OCCC

Methodology We identified 55 OCCC cases with corresponding data and biological tissue samples in the Danish Gynecological Cancer Database (DGCD) in the period January 2005 to December 2016. The mutational profiling and Tumor Mutational burden (TMB) were performed using the Oncomine Tumor Mutational Load Assay. Chi square and cox regression analyses were performed. P-values of <0.05 were considered statistically significant.

Results Mutations in the *PIK3CA* gene ($p=0.04$), as well as low TMB ($p=0.05$), were associated with the progression of the disease (yes vs no). In analyses adjusted for stage, patients with mutations in either *ARID1A* or *PIK3CA* were both associated with an impaired Progression Free Survival (PFS), and Overall Survival (OS) compared to cases who were wildtype for *ARID1A* and *PIK3CA* (*undetermined subgroup*) ((HR 5.42 and HR 2.77, respectively). High TMB status was associated with an improved PFS (HR 0.36) and OS (HR 0.46), although the latter only reached borderline significance. A trend toward an improved PFS in patients with APOBEC enrichment was observed (HR 0.45).

Conclusion We found that TMB-High is associated with decreased risk of progression and with an improved PFS and OS. Furthermore, a subgroup of OCCC with mutations in either the ARID1A and/or PIK3CA genes had a significantly impaired prognosis compared to the *undetermined* subgroup in analyses adjusted for stage.