RRSO and hysterectomy. During 8 (5%) laparoscopic RRSO, prophylactic bilateral mastectomy was also performed. Early and late complications occurred in 3 patients (2%). Four patients (2%) were found to have occult serous tubal intraepithelial carcinoma (STIC) and nine patients (5%) occult cancer. **Conclusion** RRSO is a safe and feasible procedure in BRCA 1–2 mutation carriers. The procedure is effective for genetic prevention of ovarian cancer.

2022-RA-823-ESGO — FOXL2 MUTATION DETECTION IN CIRCULATING TUMOR DNA OF ADULT GRANULOSA CELL TUMORS AS A POTENTIAL BIOMARKER FOR DISEASE MONITORING FROM THE RANDOMIZED ALIENOR TRIAL, A GINECO STUDY

[1]Isabelle Treilleux, [1]Alexandra Lainé, [1]Valérie Combaret, [1]Cécile Dalban, [2]Laurence Gladieff, [3]Hortense Chevalier, [4]Magali Provansal, [5]Jean-Emmanuel Kurtz, [6]Fabien Brocard, [7]Frédéric Selle, [1]Pierre Etienne Heudel, [8]Patricia Pautier, [9]Michel Fabbro, [10]Anne Floquet, [11]Dominique Berton, [12]Aude-Marie Savoye, [13]Marianne Leheurteur, [14]Marie-Christine Kaminsky, [1]Sylvie Chabaud, [1]Isabelle Ray-Coquard. [1]Centre Léon Bérard, Lyon, France; [2]Institut Claudius Regaud, Toulouse, France; [3]Centre Oscar Lambret, Lille, France; [4]Institut Paoli Calmettes, Marseille, France; [5]ICANS-Institut cancérologie Strasbourg Europe, Strasbourg, France; [6]ORACLE – Centre d'Oncologie de Gentilly, Nancy, France; [7]Groupe Hospitalier Diaconesses Croix Saint-Simon, Paris, France; [8]Institut Gustave Roussy, Villejuif, France; [9]ICM Val d'Aurelle, Montpellier, France; [10]Institut Bergonié, Bordeaux, France; [11]ICO – Centre René Gauducheau, Nantes, France; [12]Institut Jean Godinot, Reims, France; [13]Centre Henri Becquerel, Rouen, France; [14]ICL – Centre Alexis Vautrin, Vandoeuvre-lès-Nancy, France

Introduction/Background Adult granulosa cell tumors (aGCT) are rare ovarian malignant tumors harboring specific FOXL2 402C>G (C134W) mutation (96%) with multiples relapses. Serum markers are inaccurate in reflecting tumor burden, supporting the identification of new biomarkers.
Methodology Plasma samples were obtained at baseline and every 2–4 weeks for 6 months after C1D1 from patients enrolled in the ALIENOR trial (NCT01770301; 60 patients with relapsed sex cord-stromal tumors treated with chemotherapy +/- bevacizumab (Ray-Coquard, JAMA Oncol 2021)). Digital droplet PCR on circulating cell-free DNA was performed in 137 samples from 23 patients with FOXL2-mutated aGCT to investigate the clinical value of FOXL2 mutation on circulating tumor DNA (FOXL2mut ctDNA) for monitoring disease.
Results FOXL2mut ctDNA was detected in 10 of 23 aGCT patients' plasma (43%). The sum of the largest diameter of target lesions was 52 mm for FOXL2mut ctDNA negative and 138 mm for positive samples. No clinical factors such as age, number of relapse, metastatic sites, chemotherapy lines or surgeries were correlated to FOXL2mut ctDNA levels. Looking at individual monitoring data, a trend between clinical progression and increased FOXL2mut ctDNA levels under therapy was noted. Among 19 patients with samples at baseline and for whom subsequent blood samples were also available at progression or end of study, sensibility, specificity, positive and negative predictive values of FOXL2mut ctDNA were 70%, 89%, 87% and 72% respectively. Only one of 4 patients without FOXL2mut ctDNA at baseline turned positive at progression. With a median follow-up of 42.6 months IC$_{95\%}$[36.8;48.8], 4 patients died (all in the FOXL2mut ctDNA group) (figure 1).
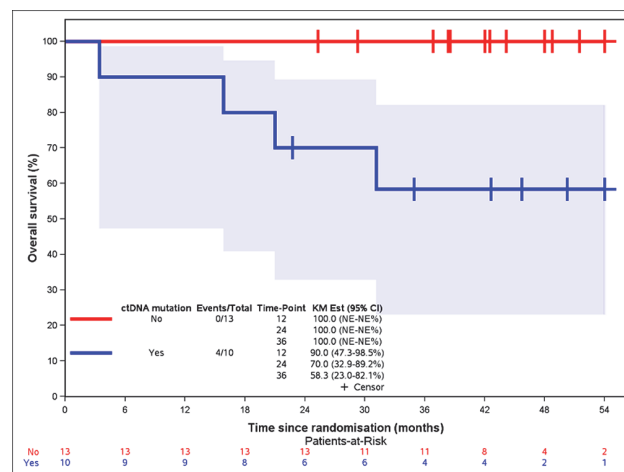
Abstract 2022-RA-823-ESGO Figure 1

Conclusion In this small series of aGCT, monitoring FOXL2-mut ctDNA seems relevant to predict RECIST or clinical progression in relapse setting. All cancer deaths were in the FOXL2mut ctDNA group. Future studies are warranted to confirm if this biomarker can avoid repetitive CTscan for surveillance.

2022-RA-830-ESGO — EXPRESSION OF COL5A2 IN OVARIAN TUMOR MICROENVIRONMENT AND ITS MECHANISM OF PROMOTING OVARIAN CANCER

Hongming Zhu, Tianmin Xu. Department of Obstetrics and Gynecology, the second hospital of Jilin University, Changchun, China

Introduction/Background Recent studies have shown that the research of tumor cells alone cannot explain many phenomena in tumors, so the concept of tumor microenvironment has attracted more and more attention in tumor research. Studies have found that tumor cells need to interact with other cells, especially cancer associated fibroblasts (CAFs) to promote tumor progression. COL5A2 belongs to collagen family and is an important part of extracellular matrix in tumor microenvironment. Therefore, taking COL5A2 as the core to clarify the specific mechanism of the interaction between ovarian cancer cells and CAFs in the ovarian tumor microenvironment can provide a theoretical basis for the development of new treatment strategies for ovarian cancer.
Methodology We analyzed the expression of COL5A2 in 65 cases of ovarian cancer tissue specimens and explored the mechanism of altered COL5A2 expression in ovarian tumor microenvironment. Then we explored the underlying mechanisms of the effect of COL5A2 on cell proliferation, migration and invasion of ovarian cancer in vitro and in vivo.
Results (1) Compared with normal ovarian tissues, COL5A2 is highly expressed in ovarian cancer tissues, and when COL5A2 is highly expressed, the prognosis of ovarian cancer is worse.(2) COL5A2 mainly comes from CAFs.(3) The exosomes carrying ITGB1 secreted by ovarian cancer cells can activate the function of CAFs and promote the expression

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.
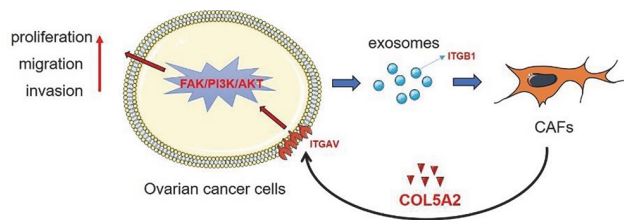
Abstract 2022-RA-830-ESGO Figure 1

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

[1]Fabian Trillsch, [2]Fabienne Schochter, [3]Tjoung-Won Park-Simon, [4]Alexander Reuß, [5]Tanja Fehm, [6]Pauline Wimberger, [7]Holger Bronger, [8]Barbara Schmalfeldt, [9]Jalid Sehouli, [10]Frederik Marmé, [11]Florian Heitz, [1]Sven Mahner, [12]Michaela Fredrich, [12]Stefanie Barth, [13]James Stec, [13]Michael Method, [11]Philipp Harter. [1]University Hospital LMU Munich, Munich, Germany; [2]University Hospital Ulm, Ulm, Germany; [3]Hannover Medical School, Hannover, Germany; [4]Coordinating Centre for Clinical Trials, Marburg, Germany; [5]University Hospital Düsseldorf, Düsseldorf, Germany; [6]Technische Universität Dresden, Dresden, Germany; [7]University Hospital rechts der Isar, Technical University Munich, Munich, Germany; [8]University Hospital Hamburg Eppendorf, Hamburg, Germany; [9]Charité – Medical University of Berlin, Berlin, Germany; [10]University Hospital Mannheim, Mannheim, Germany; [11]Evangelische Kliniken Essen-Mitte, Essen, Germany; [12]AGO, Wiesbaden, Germany; [13]ImmunoGen Inc., Waltham, MA

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

[1]Jung-Hwan Ahn, [2]Min Jong Song. [1]Obstetrics and Gynecology, Wonju Severance Christian Hospital, Wonju College of Medicine,The Yonsei University of Korea, Gangwon-do, Korea, Republic of; [2]Obstetrics and Gynecology, YeouidoSt. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of

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.