Abstract 2022-RA-893-ESGO Table 1 Clinico-pathological characteristics of PMEOC patients by ethnicity

Characteristic, n (%)	Italy (n=125)	UK (n=116)	France (n=83)
Mean (SD) age at enrolment, years	60.3 (10.8)	57.9 (10.6)	61.4 (11.2)
FIGO stage III disease	103 (82)	68 (59)	54 (65)
FIGO stage IV disease	22 (18)	45 (39)	15 (18)
FIGO stage unknown	0	3 (3)	14 (17)
Tumour BRCAm (without known germline result)	61 (49)	3 (3)	45 (54)
Germline BRCAm	64 (51)	111 (96)	25/66* (38)
Upfront surgery	77 (62)	31 (27)	21 (25)
Interval surgery	42 (34)	59 (51)	37 (45)
No surgery	4 (3)	18 (16)	11 (13)
Missing/other	2 (2)	8 (7)	14 (17)

*Patients with germline BRCAm data available

Conclusion We have demonstrated that South Asian women under 40 appear to have a distinct high risk phenotype for PMEOC. Larger studies are required to confirm this as a novel risk factor and if confirmed work to elucidate biological causes is urgently needed.

2022-RA-894-ESGO ENDOMETRIOID OVARIAN CARCINOMA – REAL WORLD EVIDENCE FROM A LARGE TRANSATLANTIC TEAM INITIATIVE: FIRST RESULTS OF THE LEOPARD STUDY

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Introduction/Background According to the WHO2020 understanding endometrioid ovarian carcinoma (ENOC) is the second most frequent ovarian carcinoma histotype. However, most historical cohorts include a significant number of misclassified cases, possibly resulting in a rather clouded picture of this histotype. We aimed to establish a large cohort of validated ENOC allowing us to study cliniocopathological characteristics and evaluate therapeutic strategies applied on an international multicentre level.

Methodology After launching a transatlantic initiative, a cohort of 846 ENOC was assembled from 22 centers across Canada and Europe after central expert pathology review and immunohistochemical validation. A detailed chart review was performed by contributing centres including surgical and adjuvant therapy data.

Results At this time a complete data set is available from 595 patients. Median age at diagnosis was 55 years (28–94). 330 (55.5%) patients were diagnosed with FIGO stage I, 160 (26.9%) with stage II, 77(12.9%) with stage III and 16(2.7%) with stage IV disease. Grade distribution included 238(40.2%) G1, 240(40.6%) G2 and 112(19.0%) G3 tumors. In 193 (32.4%) patients a diagnosis of synchronous endometrial carcinoma was made. Surgical lymph node staging was performed in 308(51.8%) cases. Positive nodes were revealed in 26/308 (8.4%) cases, of which tumor spread beyond the pelvis was described in 20/26(76.9%) patients. All low-grade tumors were node-negative. Platinum-based chemotherapy was given in 60.2% stage I, 89.1% stage II, 91.8% stage III and 86.7% stage IV patients. 5-year disease specific survival was 95.7% in stage I, 87.2% in stage II, 56.6% in stage III and 15.8% in stage IV ($p<0.0001$).

Conclusion We were able to assemble a large multicentre ENOC cohort. The international LEOPARD team initiative stands to provide a solid picture of this unique histotype including a powerful statement on the value of lymph-node dissection and adjuvant chemotherapy. This type-specific approach will help to improve precision care for ENOC patients.

2022-RA-898-ESGO OVEREXPRESSION OF TMED9 IS IMPORTANT PROGNOSTIC BIOMARKER FOR EPITHELIAL OVARIAN CANCER

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Introduction/Background Transmembrane emp24 domain-containing protein 9 (TMED9) belongs to the TMED/p24 family which regulates the innate immune and protein transport via the ER-Golgi cargo pathway. Previous studies have reported that high expression of TMED9 contributes to diseases such as cancer. However, its role in epithelial ovarian cancer (EOC) has not been clarified yet. Therefore, we aim to evaluate the function, molecular mechanism, and clinicopathological significance of TMED9 in EOC.

Methodology The expression level of TMED9 was screened by RNA sequencing of 10 EOCs and normal epithelial

ovarian tissues. Expression of TMED9 was respectively evaluated by Immunohistochemistry staining of EOC, borderline, benign, and normal epithelial tissues, qPCR, western blotting, and public data sets. Associations of clinicopathological features and prognosis with TMED9 in EOC patients were analyzed in our recruited cohort and GEO datasets. Also, the functional roles of TMED9 were evaluated by MTS, colony formation, and transwell migration/invasion assays in EOC cell lines.

Results TMED protein was elevated in EOCs according to a GEO and TCGA datasets. High mRNA and protein levels of TMED9 were observed in EOCs compared to borderline, benign, and normal nonadjacent ovarian epithelial tissues ($p < 0.001$). Importantly, high expression of TMED9 was associated with poor overall survival and disease-free survival compared with low expression of TMED0 in EOCs ($p = 0.006$, $p < 0.001$). In vitro results also demonstrated the knockdown of TMED9 was associated with decreased cell invasion ($p < 0.001$), migration ($p < 0.001$), proliferation ($p < 0.001$), and colony-forming abilities ($p < 0.001$) supporting the oncogenic role in EOC.

Conclusion Our study is the first work to identify an oncogenic role of TMEd9 in EOC tissues and cell lines which may provide insights into the application of TMED9 as a novel predictor of clinical outcome and a potential therapeutic target in EOC patients.

2022-RA-901-ESGO OPEN ABDOMINAL VACUUM PACK TECHNIQUE FOR THE MANAGEMENT OF SEVERE ABDOMINAL COMPLICATIONS AFTER CYTOREDUCTIVE SURGERY IN OVARIAN CANCER

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Introduction/Background The aim of this study was to evaluate the indications and management of grade III-IV postoperative complications in patients requiring vacuum-assisted open abdomen after debulking surgery for ovarian carcinomatosis.

Methodology Retrospective study of prospectively collected data from patients who underwent a cytoreductive surgery by laparotomy for an epithelial ovarian cancer that required postoperative management of an open abdomen. An abdominal vacuum-assisted wound closure (VAWC) was applied in cases of abdominal compartmental syndrome (ACS) or intra-abdominal hypertension, to prevent ACS. The fascia was closed with a suture or a biologic mesh. The primary aim was to achieve primary fascial closure. Secondary outcomes considered included complications ofcytoreductive surgery (CRS) and open abdominal wounds (hernia, fistula).

Results Two percent of patients who underwent CRS required VAWC during the study's patient inclusion period. VAWC indications included: (i) seven cases of gastro-intestinal perforation, (ii) three necrotic enterocolitis, (iii) two intestinal ischemia, (iv) three anastomotic leakages and (v) four intra-abdominal hemorrhages. VAWC was used to treat indications (i) to (iv) (which represented 73.7% of cases), to prevent compartmental syndrome. Primary fascia closure was achieved in 100% of cases, in four cases (21.0%) a biologic mesh was used.Median hospital stay was 65 days (range: 18–153). Four patients died during hospitalization, three of these within 30 days of VAWC completion.

Conclusion VAWC for managing open abdominal wounds is a reliable technique to treat surgical post-CRS complications in advanced ovarian cancer and reduces the early post-operative mortality in cases presenting with severe complications.

2022-RA-906-ESGO ACID CERAMIDASE *(ASAH1)* EXPRESSION IS ASSOCIATED WITH IMPROVED PROGRESSION- AND OVERALL SURVIVAL IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENTS

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Introduction/Background Despite recent progress in the treatment of epithelial ovarian cancer the cure of this disease remains a challenge. Therefore new treatment options along with new prognostic and predictive makers are urgently needed. The enzyme acid ceramidase (AC) plays a central role in the sphingolipid network which is involved in tumorigenesis and progression. Furthermore AC directed therapies are currently under development. We investigated the expression of AC and its prognostic impact on ovarian cancers.

Methodology Patients of the AGO-cohort of the ICON-7 trial were analysed. In this randomized trial patients with advanced EOC received carboplatin+paclitaxel vs. carboplatin+paclitaxel +bevacizumab. Tissue micro arrays (TMAs) were constructed for performing immunohistochemical analysis of AC. The results were correlated with clinico-pathological characteristics and survival data.

Results Kaplan-Meier analysis (n=351) revealed that high levels of AC were associated with improved progression-free survival (PFS; 24.12 months [95% confidence interval (CI): 19.36 – 28.86] vs. 16.69 months [95% CI: 14.91 – 18.71], p < 0.0001) and overall-survival (OS; 66.83 months [95%CI: -] vs. 44.12 months [95%CI: 37.37 – 50.87], p < 0.0001). Subsequently, the prognostic value of AC expression together with clinical factors (i.e. FIGO stage, grading, histological subtype, bevacizumab medication and residual tumour burden after surgery) was further confirmed in multivariate Cox regression analysis in n= 426 patients (PFS: hazard ratio (HR) = 0.69 [95% CI: 0.550 – 0.877], p = 0.002; OS: HR = 0.67 [95% CI: 0.504 – 0.881], p = 0.004).

Conclusion Our data identify high levels of AC expression as a strong favorable prognostic marker in ovarian cancer patients.