

**Introduction/Background** The treatment of older women with ovarian cancer is challenging due to increased pre-existing comorbidities and frailty, often leading to less radical treatment than the standard of care. Older women are frequently excluded from clinical trials. Recent studies such as the EWOC-1 study focused on elderly women with ovarian cancer suggest worse outcomes associated with less radical treatment approaches.

**Methodology** Women diagnosed with ovarian cancer  $\geq 65$  years old referred to oncology services at three Irish University Hospitals between 2015 and 2021 were included. We evaluated patterns regarding surgery and chemotherapy sequencing, choice of agent and completion rates, according to age group. Survival outcomes were examined by Kaplan Meier analysis. The study received ethical approval.

**Results** 190 patients were included in this study. 65.26% (124) of these women had an ECOG performance status of 0–1 at diagnosis. 129 patients (67.89%) had (FIGO) stage III or stage IV disease at diagnosis. 55% of all stage III/IV patients had optimal debulking surgery. 37% of stage III/IV patients received neoadjuvant chemotherapy followed by surgery and 27% had surgery followed by chemotherapy. Women in the  $\geq 75$  group were more likely to receive single agent carboplatin (38%), compared to women aged 65–74 years (30%). Median overall survival for all stage III/IV patients who received SA Carboplatin was 15 months versus 22 months for Carboplatin and Paclitaxel groups. BRCA testing was sub-optimal in this age group at 28% of all patients although routine BRCA testing has only been available in Ireland since 2019.

**Conclusion** Elderly ovarian cancer patients, particularly those  $\geq 75$  years, may receive less radical treatment approaches than standard of care. Our cohort suggests improved survival with carboplatin/paclitaxel, although our cohort is too small to draw significant conclusions. Rates of BRCA testing were low. Geriatric oncology assessments should be incorporated into treatment decisions.

**2022-RA-1683-ESGO VTE IN NEWLY DIAGNOSED OVARIAN CANCER PATIENTS**

Daniel Shai, Jacob Korach, Limor Helpman. *Gynecologic Oncology, Sheba Medical Center, Tel Hashomer, Israel*

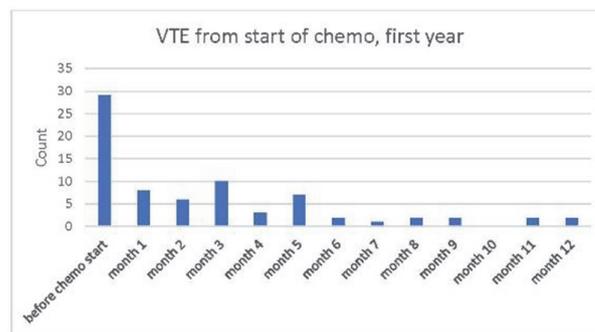
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**Introduction/Background** Ovarian cancer is commonly diagnosed at advanced stages, and is frequently treated with neoadjuvant chemotherapy. Advanced cancer patients are at risk for venous thromboembolism (VTE) and benefit has been shown using anticoagulants in risk stratified populations. Although a limited number of publications describe high rates of VTE among ovarian cancer patients, predictors of risk in this population have not been well studied. Our objective was to define rates of VTE among ovarian cancer patients receiving first-line chemotherapy and to identify predictors.

**Methodology** Ovarian cancer patients receiving first-line chemotherapy in Sheba Medical Center between 2013–2021 were identified, and data retrieved from the electronic medical record (EMR), institutional pharmacy records and imaging reports using dedicated software (MDCClone®, Israel). A Natural Language Processing algorithm was created to identify VTE events to augment recorded diagnoses. Descriptive

statistics were used to compare patients experiencing a VTE around and up to one year after beginning chemotherapy, to patients who did not. Logistic regression analysis was used to evaluate predictors of VTE.

**Results** 697 records were identified. VTE during the first year was diagnosed in 74 (10.6%), of whom 40 were DVT and 34 were PE. The majority were diagnosed in the first 6 months (figure 1). Only 5 were diagnosed in the 30-day postoperative period. Patients with a VTE diagnosis were older (mean, 65.4 vs 62.3,  $p=0.03$ ) and had lower albumin levels (mean, 3.08 vs 3.29,  $p=0.04$ ). Other predictors of VTE on univariable regression analysis included poor performance status, neoadjuvant chemotherapy and a Khorana Score  $\geq 2$ , but none were found to be independent predictors (table 1).



Abstract 2022-RA-1683-ESGO Figure 1

**Abstract 2022-RA-1683-ESGO Table 1** Logistic regression model-predictors for VTE in first year of ovarian-cancer diagnosis

	Univariable OR (CI)	Adjusted OR (CI)
Age (/year)	1.02 (1.00-1.05)	1.01 (0.96-1.05)
ECOG (N=308) (REF=0)		
1	2.9 (1.39-6.04)	2.60 (0.93-7.31)
2	2.76 (0.54-13.92)	3.84 (0.33-44.62)
3	*	
4	*	
Albumin (/unit) (N=456)	0.65 (0.43-0.99)	1.09 (0.52-2.3)
Neoadjuvant Chemotherapy	1.66 (0.91-3.04)	1.60 (0.57-4.48)
Comorbidities (N=696)		
Previous VTE	0.95 (0.12-7.47)	
Hypertension	1.17 (0.67-2.06)	
Prior history of cancer	1.66 (0.62-4.47)	
Khorana Score (REF=1)		
2	1.94 (1.15-3.36)	
3	1.73 (0.78-3.79)	
4	2.3 (0.26-20.29)	
Khorana Score $\geq 2$ (intermediate-high)	1.89 (1.16-3.08)	1.03 (0.36-2.94)

\*small # of events in cell

**Conclusion** VTE is frequent in the first year, and particularly in the 6 months around ovarian cancer diagnosis. Risk may be predicted using established risk algorithms. Prophylactic anticoagulation may be considered in at-risk patients during first line chemotherapy.

**2022-RA-1694-ESGO A DYNAMIC, RISK-BASED DETERMINATION OF FOLLOW-UP INTERVALS FOR ADVANCED EPITHELIAL OVARIAN CANCER BASED ON SERUM CA125 TESTS**

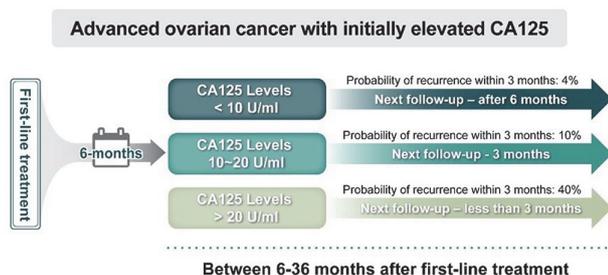
<sup>1</sup>Sokbom Kang, <sup>2</sup>Yeon Jee Lee. <sup>1</sup>National Cancer Center, Korea, Goyang, Korea, Republic of; <sup>2</sup>National Cancer Center, Goyang, Korea, Republic of

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**Introduction/Background** By analyzing the longitudinal data of serum CA (cancer antigen) 125 data during follow-up, we developed a framework for the dynamic determination of the follow-up interval based on serum biomarkers.

**Methodology** The longitudinal data of CA125 tests from routine 3-month follow-up visits of advanced epithelial ovarian cancer were retrospectively retrieved. A repeated-measure analysis using mixed model effects was developed to predict the probability of short-term recurrence (within 3 months and 6 months). The probability was calculated for the three predefined risk groups: serum CA125 levels lower than 10 U/ml, between 10 and 20 U/ml, and higher than 20 U/ml.

**Results** The 346 CA125 test results from 115 patients were subjected to longitudinal analysis. For results less than 10 U/ml, the predicted probabilities that the patient would experience recurrent disease within 3 and 6 months were 4.1% and 14.0%, respectively. For results between 10 U/ml and 20 U/ml, the predicted probabilities were 9.8% and 40.5%, respectively. For results greater than 20 U/ml, the predicted probabilities increased to 40.3% and 61.0%, respectively. Multivariate analysis indicated that the current CA125 level was the sole factor significantly associated with recurrence both within 3 months and within 6 months (all  $P < 0.001$ ).



Abstract 2022-RA-1694-ESGO Figure 1

**Conclusion** We developed a risk model to predict the short-term recurrence risk of ovarian cancer and proposed a framework for the dynamic determination of the follow-up interval based on the results of CA125 testing.

2022-RA-1711-ESGO

#### OVARIAN EPITHELIAL CELL POPULATION AS A NOVEL CELL AND THERAPEUTIC TOOL FOR SMALL CELL CARCINOMA OF THE OVARY, HYPERCALCEMIC TYPE (SCCOHT)

<sup>1</sup>Tanja Pejovic, <sup>1</sup>Sonali Joshi, <sup>2</sup>Dhanir Tailor, <sup>1</sup>Adam Krieg. <sup>1</sup>Ob Gyn, Oregon Health and Science University, Portland, OR; <sup>2</sup>Cell Development and Biology, Oregon Health and Science University, Portland, OR

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**Introduction/Background** SCCOHT is a rare malignancy affecting young women, with 5-year survival of 10–20%. SCCOHT is caused by inherited and acquired mutations in the *SMARCA4* gene, which encodes the BRG1 protein that participates in SWI/SNF chromatin remodeling. There are few established cell-lines and no models of SCCOHT to test new therapeutics.

**Methodology** We obtained fresh ovarian surface epithelial cells (OSE) from 2 unique cases: 1) A 14-year-old familial carrier

of a SCCOHT-associated *SMARCA4* mutation (*SMARCA4* c.30821+1G>T) who underwent prophylactic bilateral salpingo-oophorectomy, and 2) A 29-year-old with late recurrence of stage IA SCCOHT (*SMARCA4* c.189,2dupC). OSE were passaged *in vitro*. In Case 1, the experiments aimed to determine if the OSE harboring a pathogenic *SMARCA4* mutation will spontaneously immortalize. We interrogated loss of contact-dependent inhibition, ability of the cells to grow independently and form spheroids, and measured senescence-associated beta-galactosidase, cell necrosis and apoptosis. Analyses were conducted in parallel with age-matched benign ovarian cyst OSE. In Case 2, Next-Generation Sequencing for a panel of cancer genes, RNAtranscriptome and Nanostring Digital Spatial Profiling (DSP) were performed. Tumour cells in culture were prepared for injection into immunodeficient mice.

**Results** *SMARCA4* mutant ovarian cells were passaged 12 times and continue to proliferate in culture, spontaneously formed foci of multi-cell aggregates and spheroids, while non-mutant control cells failed to propagate and expand (Case 1). In Case 2, the mutant *SMARCA4* allele was present in tumor tissue, with a heterozygous germline. There were no additional mutations/gene fusions. Tumor cells were injected subcutaneously in 3 NOD/Scid mice with measurable tumor growth within 4 weeks in all.

**Conclusion** *SMARCA4* mutant cells associated with familial SCCOHT show characteristics of early neoplastic transformation and represent a unique tool to study pathogenesis of SCCOHT. A PDX model of advanced SCCOHT (Case 2) provides a novel tool for developing therapeutic approaches for SCCOHT.

2022-RA-1715-ESGO

#### ONCOLOGICAL OUTCOMES OF LAPAROSCOPY IN PATIENTS WHO UNDERWENT A CONSERVATIVE FERTILITY TREATMENT IN OVARIAN BORDERLINE TUMOURS

Marta Tortajada, Nuria Agustí, Pere Fusté, Berta Díaz-Feijóo, Ariel Glickman, Nuria Carreras, Tiernes Marina, Aureli Torné. Hospital Clinic Barcelona, Barcelona, Spain

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**Introduction/Background** Borderline ovarian tumours (BOTs) have an average age at the diagnosis of 40 years and around 30% of patients have not completed their childbearing. Fertility sparing surgery (FSS) is considered the best treatment without an impact on the overall survival rate. However, the safety of laparoscopy for FSS in BOTs remains limited with short follow-up and ESGO and ESMO guidelines indicate open surgery as the standard approach. We aim to assess the long-term oncological safety of laparoscopy in the FSS treatment of BOTs.

**Methodology** This is a retrospective single-centre study including 34 women who underwent laparoscopic FSS for BOTs, between January 2000 and June 2019 at Hospital Clinic of Barcelona. FSS was considered when the uterus and at least part of the ovarian tissue was conserved. Patients were scheduled for transvaginal ultrasound and blood test including CA125 for 10 years or until loss. Chi-square and Fisher's tests were applied for qualitative variables. Student T-tests or Mann-Whitney tests were applied for continuous variables.

**Results** Median age was 32 years. Unilateral cystectomy was performed in 15 patients (44.1%), bilateral cystectomy in 2