Introduction/Background Epithelial ovarian carcinoma (EOC) is known for high mortality due to diagnosis at advanced stages and frequent therapy resistance. This study aimed to address the complex profile of gene expression, germline variants and somatic mutational spectra, signatures, and copy number variations of resistant patients compared to sensitive ones patients and evaluated associations with their clinical data and survival.
Methodology RNA sequencing (RNASeq) in tumors, whole exome sequencing (WES) in DNA from blood and tumor tissue sample pairs of 50 patients with surgically resected EOC, and evaluation of platinum resistance status and complete follow up.
Results Coding transcriptome profile revealed significant associations of DUT expression with the presence of peritoneal metastases, upregulation of three genes (DDB2, HELQ, and MAD2L2), and downregulation of PRPF19 in platinum-sensitive compared to resistant patient's tumors. Results of WES analysis show that compared to sensitive patients, platinum-resistant ones have a significantly higher overall TP53 gene somatic mutational rate and a lower frequency of mutations in several genes from the Hippo pathway. We also confirmed a pivotal role of somatic mutations in homologous recombination repair (HRR) genes in the platinum sensitivity and favorable prognosis of EOC patients. Additionally, distinct mutational signatures and overall mutational load, somatic mutations in PABPC1, PABPC3, and TFAM co-segregated with the resistance status, high-grade serous carcinoma subtype, or overall survival of patients.
Conclusion Taken together, we assessed transcriptomic and genomic landscapes of prognostically different subgroups of EOC patients for further follow up studies focused on utilizing the observed associations in precision oncology. Supported by the Czech Health Research Council grant no. NU20–09–00174, the Ministry of Education, Youth and Sports, INTERACTION project no. LTAUSA19032 and Cooperatio program no. 207035, 'Maternal and Childhood Care' by 3rd Faculty Medicine, Charles University.

2022-RA-865-ESGO ONCOLOGIC AND FERTILITY OUTCOMES IN ADVANCED STAGE IMMATURE TERATOMAS

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Introduction/Background Malignant ovarian germ cell tumors (MOGCTs) are rare tumors that account for approximately 5% of all ovarian cancers. Immature teratomas (ITs) represent about one third of all MOGCT. The ITs' peak of incidence is 15–30 years old, when the childbearing desire is frequently not completed. Even if most MOGCTs are diagnosed at an early stage, however advanced stages can be found. Our primary aim was to investigate the oncologic outcome of this population and the safety of a fertility sparing surgery (FSS). Secondarily, we have investigated fertility outcomes in patients with advanced stages ITs who underwent FSS.
Methodology Clinicopathological data were retrospectively collected and analyzed from a cohort of patients with advanced stages ITs at San Gerardo Hospital (Monza, Italy) between 1980 and 2019.
Results Seventeen patients were included in the study (4 stage II, 12 stage III and 1 stage IV). Of them, 13 underwent FSS and 4 patients received a demolitive surgery. 13 patients received adjuvant chemotherapy (CT) after surgery, and 4 patients were followed with active surveillance. Four patients (31%) who underwent FSS experienced recurrence. All patients are still alive and without evidence of disease during the last follow up. Among nine patients who attempted to become pregnant after FSS, six got pregnant, showing a fertility rate of 67%.
Conclusion Despite the small number of this population, this is one of the largest case series based only on patients with advanced stage ITs. FSS appears to be a feasible treatment for advanced stage ITs. Furthermore, FSS followed by adjuvant chemotherapy allows pregnancy in young women whose maternal desire was not yet ultimate.

2022-RA-877-ESGO EPIDEMIOLOGICAL STUDY ON ONCOLOGICAL OUTCOME OF PATIENTS WITH INCIDENTAL FINDINGS OF BORDERLINE OVARIAN TUMORS OR OVARIAN CANCER TREATED WITH A TWO-STEP SURGICAL PROCEDURE

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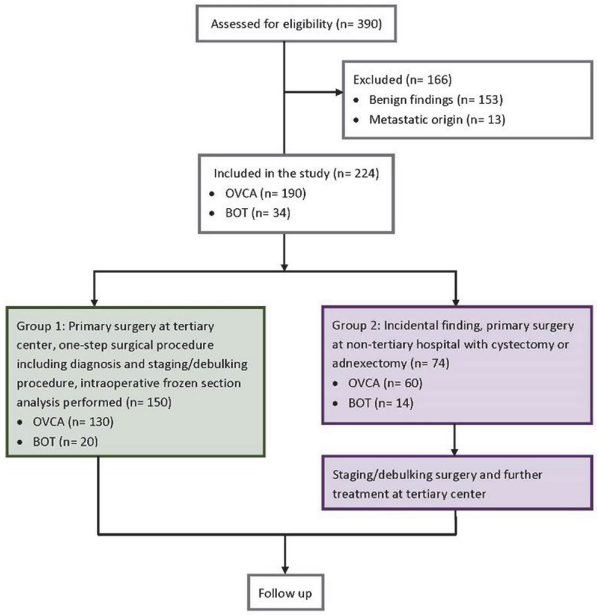
Introduction/Background Centralization of ovarian cancer (OVCA) treatment is known to be associated with prolonged survival. However, preoperative diagnosis might be challenging and sometimes the diagnosis is made unexpectedly after histological work-up. Aim of this study is to evaluate the oncological outcome of patients with incidental findings of OVCA or borderline ovarian tumors (BOT).

Abstract Table 1 Baseline clinicopathological characterists among the different study groups

	Total N= 224	Group 1 N= 150	Group 2 N= 74	P-value
Mean age at diagnosis (years ± SD)	59.0 ± 15.3	60.2 ± 14.5	56.5 ± 16.6	.088
Mean BMI (kg/m2 ± SD)	25.1 ± 5.3	25.0 ± 5.3	25.3 ± 5.2	.731
Preoperative imaging with CT and/or MRI, n (%)	181 (80.8)	138 (92)	43 (58.1)	< .001
Borderline ovarian tumors, n (%)	34 (15.2)	20 (13.3)	14 (18.9)	.184
Serous histology, n (%)	151 (67.7)	99 (66.4)	52 (70.3)	.442
Advanced FIGO stage (III/IV), n (%)	123 (54.9)	91 (60.7)	32 (43.2)	.068
Adjuvant chemotherapy, n (%)	105 (46.9)	83 (55.3)	22 (29.7)	< .001
Neoadjuvant chemotherapy, n (%)	68 (30.4)	37 (24.7)	31 (41.9)	.007

Methodology This epidemiological study includes patients with suspicious adnexal mass undergoing surgical treatment at the Bern University Hospital, Switzerland between 2010 and 2020. Patients were allocated in two groups as follows (figure 1): group 1 consists of patients referred to our tertiary

institution preoperatively due to suspected malignancy. Group 2 comprises patients with incidental findings of OVCA or BOT operated at a non-tertiary center that were referred to our institution postoperatively for completion of surgical staging and adjuvant treatment.



Abstract 2022-RA-877-ESGO Figure 1

Abstract 2022-RA-877-ESGO Table 1 Baseline clinicopathological characterists among the different study groups

Characteristic	Total No.	Asian (%)	Non-Asian (%)	P value	Asian ≤40 (%)	Non-Asian ≤40 (%)	P value
Number Assessed	121	17	104		7	16	
Age <40 at diagnosis by ethnicity	121	7 (41)	16 (15)	**0.011**			
Stage at Diagnosis	*110*	*15*	*94*		*6*	*11*	
Stage 1A		3 (20)	51 (55)		1 (17)	7 (63)	
Stage 1C		10 (67)	33 (35)	**0.030**	5 (83)	4 (37)	**0.035**
Stage 2		1 (7)	3 (3)		0	0	
Stage 3		1 (7)	7 (7)		0	0	
Stage 4		0	0		0	0	
Unknown		2	10		1	5	
Diagnostic parameters							
		10	53				
CA125		65.3	64.8				
		14	86				
Tumour Size		19.9	19.8				
Pathology							
Subtype	*75*	*12*	*63*		*6*	*9*	
Infiltrative		4 (33)	9 (14)	**0.11**	4 (67)	1 (11)	**0.025**
Expansile		8 (67)	54 (86)		2 (33)	8 (89)	
Not available		5	41		1	7	
CK7 IHC	*103*	*16*	*86*		*6*	*10*	
Positive		16 (100)	84 (98)		6 (100)	10 (100)	
Negative		0 (0)	2 (2)		0 (0)	0 (0)	
Not available		1	18		1	6	
CK20 IHC	*100*	*16*	*84*		*6*	*10*	
Positive		12 (75)	68 (81)		6 (100)	6 (60)	
Negative		4 (25)	16 (19)		0 (0)	4 (40)	
Not available		1	20		1	6	
Treatment Type	*119*	*17*	*102*		*7*	*16*	
Fertility sparing surgery		5 (29)	12 (12)	**0.054**	5 (71)	9 (56)	0.493
Surgery Complexity score <4		11 (65)	78 (78)		2 (29)	7 (44)	
Surgery Complexity Score ≥4		0 (0)	9 (9)		0 (0)	0 (0)	
NACT		1 (6)	3 (3)		0 (0)	0 (0)	
Unknown		0	2		0	0	
Survival	*121*	*17*	*104*		*7*	*16*	
5 Year overall		12 (71)	90 (87)	**0.019**	4 (57)	16 (100)	**0.005**

Diagnostic parameters reflected as mean values. IHC- Immunohistochemistry, Complexity Score- Aletti surgical complexity score. Numbers in highlighted rows represents the number of cases assessed.

Results Out of 390 patients, 224 were diagnosed with BOT or OVCA. Clinicopathological data are provided in Table 1, mean follow-up was 63 months. Compared to patients in group 1, patients in group 2 underwent a higher number of surgical interventions (2.1 vs. 1.3, P < .001), showed a longer time from diagnosis until start of chemotherapy (45 vs. 33 days, P= .006), and from diagnosis until completion of staging surgery (73 vs. 32 days, P < .001). Incidental diagnosis was not associated with increased risk of recurrence in patients with BOT (HR 4.6, 95% CI 0.4–52.3, P= .216), early stage (HR 0.6, 95% CI 0.2–1.7, P= .348) or advanced stage (HR 0.9, 95% CI 0.5–1.5, P= .631) OVCA.

Conclusion Although patients with incidental findings of OVCA or BOT have a longer time until completion of surgical staging and start of chemotherapy our results showed no compromise in oncological outcome. Our findings further highlight the importance of an untimely referral of these patients to a tertiary centre.

2022-RA-882-ESGO SURGICAL OUTCOME AFTER UPPER ABDOMINAL SURGERY PROCEDURES FOR OVARIAN CANCER

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Introduction/Background Surgery has a central role in treatment of advanced ovarian cancer. Various incidence of the surgical procedures in the upper abdominal cavity is reported. This study aims to elucidate surgical outcome after advanced upper abdominal surgery.

Methodology 375 patients eligible for surgery for stage IIB-IV ovarian/tubar/peritoneal cancer at the Academic Uppsala University hospital, Sweden, between 2014 and 2022 were included in this study. Inclusion criteria were primary or interval debulking, complete or near to complete (max 2,5 mm residual disease) cytoreduction. T-test and Chi-square-test were used.

Results Complete cytoreduction was achieved in 334/375 (89.1%) cases and near to complete cytoreduction in 41/375 (10.9%) cases. Incidence of complete cytoreduction was higher at stages IIB-III (91.9%) compared to stage IV (82.3%), Chi-square=4.42, p=0.04. High-grade 30-days postoperative complications occurred in 63/375 (16.8%) cases. Incidence of splenectomy was 183/375 (48.8%). Incidence of high-grade postoperative 30-days complications after splenectomy was 46/183 (25.1%) compared to 17/192 (8.8%) when splenectomy was not performed (Chi-square=17.8, p<0.01). Peritoneal cancer index (PCI) was 3-fold higher for patients who underwent splenectomy compared to those who did not need the procedure, 25 and 8, correspondently. Incidence of extirpation of non-regional bulky nodes (cardiofrenic, hepatic hilum and celiac) was 84/375 (22.4%). Incidence of high-grade 30-days postoperative complications after extirpation of non-regional bulky nodes (17/84 – 20.2%) and when procedure was not performed – 43/287 (15%) was similar (Chi-square=1.32, p=0.3). An average PCI for patients who underwent extirpation of non-regional bulky nodes was 25.

Conclusion Significantly more high-grade 30-days postoperative complications occurred after splenectomy, but not after extirpation of the non-regional bulky nodes compared to