cases (N: 14). Mean time of hospitalization was 7.84 days (4.16 SD; max:15, min:1). Few patients had complications: surgical urologic complications: 12.0% N:3; post-surgery complications: urological (N:2), abdominal wall infection (N:2), e ventration (N:1), vascular (N:1).

**Conclusion** Ovarian cancer in premenopausal women is a threatening condition, diagnosed in most cases in advanced stages, that needs a combination of chemotherapy and surgery. Surgical approach must be aggressive in order to achieve a complete resection of the tumor.

**Methodology** Retrospective analysis of women with AOC from the 1st Department of Obstetrics & Gynecology at “Papageorgiou” Hospital (ESGO Certified Center for AOC), 2014 – 2019. From 2014 to 2016 conventional management (CM) was applied, while from 2017 to 2019 patients where managed with ERAS protocol. Patient & tumor characteristics, treatment options and follow-up information were collected. Primary outcomes where ICU admittance, post-operative complications (Clavien – Dindo classification) and hospitalization.

**Result(s)** 142 patients met the inclusion criteria. Patients underwent either primary debulking surgery (PDS) or interval debulking surgery (IDS). 84 patients were treated with conventional management and 58 with ERAS protocol. The mean age for the ERAS group was 60 ± 13 vs. 61 ± 13 years old for the CM group (p=0.8315). Furthermore, there was no difference between the type of surgery operation duration between the 2 groups. (CM group: 210min vs. ERAS group: 240min, p=0.1497/CM group: 50% PDS – 50% IDS vs. ERAS group: 38% PDS – 62% IDS, p=0.1554). However, the occurrence of ICU admittance (32% vs. 14%, p=0.01263), overall postoperative complications (32 vs. 22.6, p=0.004) and hospitalization (9 vs. 7 days, p<0.001) were significantly reduced by the implementation of the ERAS protocol. Last but not least, concerning 30day mortality: 3 patients died during conventional management, while only 1 died during ERAS protocol.

**Conclusion** The implementation of the ERAS program in the management of AOC improves patient’s postoperative morbidity, reducing the interval time between surgery and systematic therapy. Less need for the ICU and fewer days in the hospital can decrease healthcare costs in high-volume gynecological – oncological centers.
Introduction/Background. The tumour microenvironment (TME) in metastatic high grade serous ovarian cancer (HGSOC) is not well described. We present a multimodal characterisation of intraepithelial TILs (iTILs) and stromal TILs (sTILs) using flow cytometry (FACS) immunohistochemistry (IHC) in matched primary and metastatic HGSOC samples.

Methodology. FACS and IHC for CD4 and CD8 were performed on 26 samples from seven women with HGSOC. Tissue samples, labelled with fluorescent antibodies against CD3, CD4, CD8, checkpoints TIGIT, PD1 and cytokine IFN-γ also were analysed with a FACS Fortessa (BD Biosciences). IHC was performed on samples and images annotated to assess intra-epithelial and stromal CD4 and CD8 expression using ImageScope (Aperio), and analysed using the Aperio Nuclear Algorithm v9 (figure 1). Statistical analysis was performed using IBM SPSS 24 or Prism Graph Pad. Quantitative variables were assessed with one way ANOVA and Mann Whitney test.

Results. FACS demonstrated that, compared to primary samples, the frequency of CD8+ TILs (p=0.017), TIGIT (p=0.013) and PD1 (p=0.017) expression was reduced in matched metastatic sites. CD4+ TILs levels were unchanged between primary and metastatic samples. Consistent with a reduced level of cytotoxic activity, IFN-γ on CD8+ TILs was reduced in the metastatic TME (p=0.034).

IHC demonstrated that the majority of primary samples (5/7 (71.4%) showed a higher proportion of CD8+ sTILs compared to iTILs (figure 3b). In the one BRCA mutated patient, the CD8 iTILs were higher than sTILs (figure 4a). In FACS, this sample also had the highest frequency of CD8+ TILs within the ovarian tumour (figure 4b).

In IHC from 4/6 different metastatic sites (omentum, vagina, spleen and peritoneum) the density of CD8+ sTILs was higher than iTILs, demonstrating these tumours were immune excluded. Serosal liver and diaphragmatic metastases demonstrated increased CD8+ iTILs compared with primary tumours. Although not as marked, this pattern was replicated in CD4 sTILs (figure 5b, c).

Abstract 498 Figure 1 Immunohistochemistry of primary ovarian HGSOC stained for CD4 and CD8. Demonstration of presence of CD4+ and CD8+ TILs in stroma and ovarian tissue. TIL expression was calculated as the number of cells/mm2

Abstract 498 Figure 2 Flow cytometry IFN-γ expression in Primary ovary and metastatic samples

Fig 2a FACS analysis of IFNg expression on CD8+ T cells from primary HGSOC samples in primary ovary, metastatic omental samples. This graph demonstrates that the proportion of IFNg decreases in CD8+ T cells on metastatic T cells when compared to primary ovarian samples.
Abstract 498 Figure 3  Immunohistochemistry results of CD4+ T cells and CD8+ TILs in ovarian tumour and stroma
3a This graph shows that in 5/7 (71.4%) of ovarian tumour samples the number of cells per mm2 of CD4+ T cells was increased in the surrounding stroma compared to the tumour itself. The black dots represent those patients in whom the tumor showed a lower number of CD4+ T cells per mm2; 3b This graph shows in 5/7 (71.4%) of patients the number of cells per mm2 of CD8+ TILs was greater in the stroma. Therefore these tumours could be considered ‘cold’ or ‘immune excluded’.

Abstract 498 Figure 4  BRAC status and IHC
4b: Flow cytometry from primary ovarian cancer tissue samples; 4a BRCA mutation was known in three patients. One (1/3, 33.3%) was BRCA1 mutated (p16) and this patient sample showed an increased proportion of CD8+ TILs in the tumour compared to the surrounding stromal tissue 4b Flow cytometry: This demonstrates the levels of CD8+ T cells within the primary ovarian tumour from our patient cohort. The BRCA1 mutation on P16 showed the highest number of CD8+ T cells, correlating with the IHC data.

Abstract 498 Figure 5  Immunohistochemistry of CD4+ and CD8+ TILs in tumour and stroma HGSOC primary samples
5a Immunohistochemistry reveals the number of CD4+ and CD8+ T cells per mm2 within the ovarian tumour. A higher proportion of CD8+ TILs was noted within the tumour tissue; Fig 5b A representation of the CD4+ T cells in the HGSOC metastatic samples. For metastatic samples in the omentum (2/6), vagina, spleen and peritoneum, the stroma had a greater proportion of CD4+ T cells than the tumour. In the diaphragm and in serosal liver deposits, the tumour was enriched with CD4+ T cells. The difference was less marked than in the CD8+ TILs (see fig 5c); 5c A representation of the CD8+ TILs in the HGSOC metastatic samples. For the majority of metastatic samples, the presences of CD8+ TILs in the metastatic cancer samples was lower in the tumour sample than within the stromal tissue.
Conclusion* Using a multimodal approach, including IHC and FACS, we demonstrate that the metastatic TME in HGSOC is significantly different to the primary TME. These findings provide an initial explanation as to why immune checkpoint inhibitors have failed in HGSOC and warrant further investigation.

FERTILITY OUTCOMES FOLLOWING FERTILITY SPARING SURGERY FOR THE MANAGEMENT OF EARLY-STAGE CLEAR CELL OVARIAN CARCINOMA; A SYSTEMATIC REVIEW

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Introduction/Background* The application of fertility sparing surgery (FSS) in patients with clear cell ovarian carcinoma (CCOC) has been extensively criticized, even in patients with stage IA or IC disease, due to the high reported recurrence rates and the resistance to chemotherapy. The objective of the present study was to evaluate the obstetric and fertility outcomes of patients with early stage CCOC following fertility sparing surgery (FSS).

Methodology Three electronic databases were systematically searched for articles published in the field up to December 2020 using the terms “ovarian cancer”, “clear cell”, “fertility sparing”, “conservative treatment”. Studies that reported pregnancy and obstetric outcomes after FSS for the management of early stage CCOC were considered eligible for inclusion.

Result(s) A total of 5 retrospective studies with 60 patients with CCOC who underwent FSS were included. Mean patients’ age was 34.8 years. The total clinical pregnancy rate was 32% with a proportion of 24% of live birth rates in 12 of the included patients. The median interval from disease management to pregnancy was 41.5 months. Recurrence rate was 16.6% among the included patients. Survival and recurrence rates were not different in patients who had FSS compared to those who had radical surgery.

Conclusion* Fertility-sparing treatment for stage IA/IC CCOC seems to be an acceptable treatment option for selected women of reproductive age with a strong desire of fertility preservation. Further larger multicenter studies and studies derived from registries are warranted to validate the special aspects of the procedure and to designate the potential candidates who will receive survival and fertility benefit from fertility-sparing surgery.

DIAGNOSTIC FEATURES OF OVARIAN CANCER IN PREMENOPAUSAL WOMEN

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Introduction/Background* Ovarian cancer (OC) is the most lethal gynaecological malignancy worldwide, specially because it’s diagnosed as advanced-stage disease. Clinical aspects are inespecific and appear in advanced stages. Ultrasound study (US) remains the primary modality for assessment of ovarian tumors. Computed tomography (CT) imaging is the standard of care for pre-operative evaluation of ovarian cancer patients. Serum CA125 assay has low sensitivity in early stages.