

characteristics and the outcomes of a series of patients affected by borderline ovarian tumors (BOT) and invasive epithelial ovarian cancers (EOC).

**Results** 129 patients were included, 69 (53%) affected by BOT and 60 (47%) by EOC. The majority of patients (74%) diagnosed in the first trimester of pregnancy were treated with surgery  $\pm$  chemotherapy. During the second trimester, 22 patients received surgery and 16 surgery + chemotherapy. In the third trimester, only two patients were treated with surgery because of severe symptomatic diseases. No major surgical or chemotherapy-related adverse events were reported. The median gestational age at the delivery was 39, three patients had a preterm delivery due to oncological reasons. Birthweight was significantly lower in women treated with chemotherapy (mean 2528 grams vs 3031,  $p$ : 0.01). 20 patients with BOT relapsed and two of them died (one relapsed as low-grade serous carcinoma and one as a mucinous carcinoma). Among patients with EOC, the relapse rate was 25% and mortality was 18%. In two patients a benign disease was suspected, and they were not treated during pregnancy. Unfortunately, they relapsed and subsequently died.

**Conclusion** Treatment of ovarian tumors is feasible during pregnancy and obstetrical outcomes are satisfactory. Both surgery and chemotherapy appear to be safe and effective. When chemotherapy is administered during pregnancy, fetal growth should be carefully monitored. Further research is needed to enlighten the possible influence of pregnancy on the oncological outcome of ovarian cancer patients.

#### 2022-VA-1445-ESGO RIGHT DIAPHRAGMATIC PERITONECTOMY IN EXTENSIVE INVOLVEMENT OF THE CORONARY LIGAMENT: NO TOUCH PRINCIPLE

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**Introduction/Background** As a result of peritoneal fluid flow dynamics, one of the procedures frequently employed to reach the R0 aim is right diaphragmatic stripping. Generally, diaphragmatic peritoneum stripping or full-thickness resections necessitates complete liver mobilization. However, in cases of extensive tumor implants on or in the vicinity of the coronary ligament, an extra-peritoneal approach in which no direct touch to the tumoral implants on the intersection area of the diaphragm and liver can be a reasonable alternative.

**Methodology** The procedure was started with subperitoneal carbon dioxide gas insufflation. Then, sharp and blunt dissections of the right upper abdominal peritoneum were initiated and extended toward Morisson pouch inferiorly and diaphragmatic peritoneum superiorly. A roll-like folded towel was used and the course was markedly accelerated. Partial diaphragmatic resection was performed for full-thickness involvement. Thereafter, dissection of the peritoneum continued to reach behind the infiltrated hepato-diaphragmatic area. Then, the lateral parietal peritoneum was incised along the hepatic flexure to the duodenum medially and from the duodenum to the right anterior coronary and triangular

ligaments infero-superiorly. At this point, care should be paid not to injure the major retroperitoneal and short hepatic veins, the adrenal gland itself, and its vein. Finally, the peritoneum was resected en-bloc with the involved Glissonian capsule in a retrograde fashion.

**Results** This approach does not disintegrate or cut through tumoral implants, which decreases bleeding due to liver lacerations and prevents tumoral implants from tearing into pieces during manipulation. In this video article, we present a right diaphragmatic peritonectomy procedure performed with 'No Touch' principle.

Abstract 2022-VA-1445-ESGO Figure 1

**Conclusion** A retroperitoneal approach with 'No Touch Principle' can be an alternative practice for cases of extensive hepato-diaphragmatic implants.

#### 2022-RA-1450-ESGO ANDROGEN METABOLISM AND SIGNALLING IN OVARIAN CANCER

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**Introduction/Background** Ovarian cancer (OC) is a heterogeneous disease with increasing incidence rate. Epidemiological studies associate androgens with OC aetiology, nonetheless, their role, and especially that of their 11-oxygenated metabolites is not clear. Here we explore whether androgen metabolism can take place locally in ovarian tumours and assess the expression of the androgen receptor (AR) in OC tissues.

**Methodology** The expression of key enzymes in the androgen metabolism was examined in model cell lines of high-grade serous OC (HGSOC). Next, the profile of androgen metabolites formed from precursors, dehydroepiandrosterone sulphate (DHEA-S) and 11-OH-androstenedione (11-OH-A4) was determined by liquid chromatography-tandem mass spectrometry (LC-MS/MS). The TCGA Pancancer atlas data was used to explore AR expression in OC tissues.

**Results** Our gene expression data indicate that in HGSOC cell lines, classical androgen precursors, such as DHEA-S can give rise to potent androgens, such as testosterone (T) and dihydrotestosterone (DHT), however, not to 11-oxyandrogens. Indeed, our metabolism studies showed that HGSOC cell lines metabolize DHEA-S mainly to DHEA and A4. Interestingly, highest T and DHT levels formed in the chemo resistant cell line COV362, which expresses highest *AKR1C3* and *SRD5A2* levels. Furthermore, HGSOC cell lines metabolized 11-OH-A4 mainly to active androgens 11-K-A4 and 11-K-T. Highest 11-K-T levels were synthesized in Kuramochi, which expresses highest *HSD11B2* levels. Notably, AR expression correlated with a better overall survival in HGSOC patients (data from the TCGA Pancancer atlas).

**Conclusion** In ovarian tumours, classical androgen precursors give rise to classical bioactive androgens, whereas 11-oxyandrogen precursors to equally potent 11-oxyandrogens. Higher *AKR1C3* and *SRD5A2* expression contribute to greater T and DHT synthesis, whereas higher *HSD11B2* expression to greater 11-K-T levels. AR expression correlates with a better overall survival, suggesting a prognostic potential of androgens and 11-oxyandrogens in OC. Studies of the molecular mechanism of androgen signalling in OC are ongoing.