EPV175/#156 HOMOLOGOUS RECOMBINATION REPAIR GENES TESTING IN A COHORT OF APULIAN OVARIAN CANCERS PATIENTS IN THE ROUTINE DIAGNOSTIC PROCEDURE

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Objectives Pathogenic variants in homologous recombination repair (HRR) genes other than BRCA1/2 have been associated with a high risk of ovarian cancer (OC). These findings might be useful for therapeutic procedures such as PARPi. In current clinical practice, the importance of genetic testing has increased, although it is generally limited to BRCA1/2. Herein, we investigated the mutational status of both BRCA1/2 and 5 HRR genes (BRIP1, RAD51C, RAD51D, PALB2 and, BARD1) in 79 unselected OC, thus evaluating the advantage of multigene panel testing in the daily clinical practice.
Methods We analyzed 79 epithelial OC samples by using an NGS custom multigene panel of the 5 HRR pathways genes, beyond the genetic routine BRCA1/2 testing.
Results Overall, 21 pathogenic variants (26%) were detected. The majority (21,5%) of participants displayed a deleterious mutation in BRCA1/2, whereas 5% harboured a pathogenic variant in one of the HRR genes. Additionally, there were 15 (19%) uncertain significant variants (VUS), 5 of which occurred in BRCA1/2 and 10 of which involved at least one HRR gene. The assessment of germline mutational status showed that a little number of variants (3 pathogenic mutations in BRCA1/2 as well as 2 VUS in BRCA1 and RAD51D) were not detected in the corresponding blood sample. Notably, we unveiled 1 BRIP1 and 4 BRCA1/2 deleterious variants in the low-grade serous and endometroid histology, respectively.
Conclusions We demonstrated that the usage of a multigene panel, beyond BRCA1/2, improves the diagnostic yield in OC testing and it could produce clinically relevant results.

EPV176/#158 INVESTIGATING A FAMILY OF CANCER-TESTIS ANTIGENS AS BIOMARKERS FOR THE EARLIER DETECTION OF OVARIAN CANCER

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Objectives To investigate a family of cancer-testis antigens as biomarkers for early-stage ovarian cancer and whether they can be identified through non-invasive screening methods. We also aimed to examine the role of these cancer-testis antigens in disease progression.
Methods Manipulation of gene expression in ovarian cancer cell lines through plasmid and small interfering RNA transfection and immunocytochemistry of ovarian cancer stage I-IV tissue arrays.
Results Previously it has been shown that OCP2 is expressed at a significantly higher frequency in stage I (n=164) and II (n=15) ovarian cancer tissue arrays than current clinically used biomarkers CA-125, HE4 and WT1. Analysis of ovarian cancer cell lines has shown that other family members, OCP3 and 4, are expressed at higher intensities than OCP2. Silencing of these genes in ovarian cancer cells lead to phenotypical changes followed by cell death observed within 24 hours. In addition, overexpression of these genes increases cell proliferation.
Conclusions This data provides a foundation for further investigation into OCPs as biomarkers for early-stage ovarian cancer in patient blood, urine and tissue. The small size of the proteins may allow them to be excreted and therefore applicable for non-invasive screening. The function of these proteins could also make them candidates for targeted immunotherapy.

EPV177/#165 IMPLEMENTATION OF ESGO QUALITY INDICATORS (QI) FOR OVARIAN CANCER SURGERY (OCS) IN A LATIN AMERICAN CENTER

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Objectives To evaluate if the implementation of an institutional OCS protocol, aligned to NCCN guidelines, resulted in a high score index according to ESGO quality indicators (QI) in a Latin American public referral center.
Methods All consecutive surgical OC cases after a dedicated multidisciplinary team and protocol were instituted in 2015 up to 2018 were included. QI 1 to 10, 2y-DFS, 2y-OS and surgical complications were analyzed.
Results Ninety three patients, mean age=59yo (30–82yo), stage III=44 (47,3%) and IV=20 (21,5%), were included. QI 1–10 were 8, 4, 3, 3, 3, 3, 3, 3, 3, 3, sequentially. Debulking procedures were considered: CC0in 69 (65%), CC1 in 6 (6%), and CC2 in 26 cases (27.9%). Complications, according to Clavien-Dindo, in 30 days, were minor in 2 (2.1%) and major in 17 (18%), including 3 post-operative deaths (3.2%). Two-years DFS, relapsed, persistent and deaths were 41 (44.1%), 16 (17.2%), 10 (10.7%), 26 (29%), respectively.
Conclusions Adherance to ESGO QI was feasible and reproducible in a Latin American referral center. Similar criteria could be replicable in LMIC countries for OCS quality assurance.

EPV178/#166 IDENTIFICATION OF BIOMARKERS AND TARGETS FOR THE IMMUNOTHERAPY OF PATIENTS WITH CLEAR CELL OVARIAN CANCER: A SYSTEMATIC LITERATURE REVIEW

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Objectives Clear cell ovarian cancer (OC) is a rare type of epithelial cancer commonly associated with endometriosis.

Biomarkers for the early detection of clear cell OC and targets for immunotherapy both have the potential to improve outcomes for patients. Our review aims to evaluate the existing literature to determine whether any antigens could fulfil this remit.

Methods A literature search was carried out to identify biomarkers using the following free text and MeSH terms: ('clear cell' OR 'clear-cell') AND (ovar*) AND (cancer* OR malignan* OR tumour* OR tumor* OR neoplasm* OR carcinoma*) AND (biomarker* OR protein* OR antigen* OR target*) AND (immuno* OR treat* OR diagnosis OR detect*). Inclusion criteria was primary research articles on human adult females including at least 10 clear cell carcinoma patients. Exclusion criteria included reviews; case series and reports paediatrics; animal; cell line; clear cell recurrence; metastasis from another primary cancer and prognostic biomarker studies.

Results 6,750 articles were identified from searching multiple databases from 1904–2021. Duplicates were removed (n=2076) and all texts were screened against the inclusion and exclusion criteria which identified 24 gene transcripts/proteins and 2 antibodies within 32 articles identifying single or multiple targets.

Conclusions Current findings suggest there are possible candidates to act as biomarkers and targets for immunotherapy. The biomarkers show a sensitivity and specificity up to 100% in single and multiple targets when differentiating clear cell from other subtypes of epithelial OC. With further analysis this will show the potential of these biomarkers to act as targets for immunotherapy.

EPV179/#184 EVALUATION OF THE SENSITIVITY TO DIFFERENT CHEMOTHERAPY REGIMENS IN PLATINUM—PARTIAL SENSITIVE RECURRENT OVARIAN CANCER

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Objectives Ovarian cancer is one of the highest incidence and mortality gynecological tumors. Most of them will relapse within 24 months. The purpose of this study was to compare the efficacy and safety of doxorubicin liposomes or paclitaxel combined with platinum chemotherapy in the treatment of some platinum-sensitive, recurrent ovarian cancer patients.

Methods Ovarian cancer patients who is recurrence in 6–12 months from the last chemotherapy were selected and randomly assigned in a 1:1 ratio to receive paclitaxel or doxorubicin liposome and platinum-based combinations. he primary endpoint is progression-free survival (PFS).

Results A total of 216 ovarian cancer patients were enrolled, 106 of whom received paclitaxel platinum therapy , 110 patients received doxorubicin platinum therapy. Patients in the platinum-based paclitaxel treatment group had a longer PFS (18.0 vs. 14.0 months, hazard ratio, 0.71, 95% confidence interval [CI], 0.44 to 1.45, P>0.05) compared with those in the doxorubicin-platinum group. The disease control rates of the two groups were 88.6% in the paclitaxel group and 86.36% in the doxorubicin group. In the study, the most adverse reactions of grade 3 or 4 in the doxorubicin platinum treatment group were leukopenia (6.4%) and thrombocytopenia (10.9%). The paclitaxel platinum treatment group were leukopenia (8.5%) and thrombocytopenia (3.8%).

Conclusions In the treatment of some platinum-sensitive, recurrent ovarian cancer patients, paclitaxel platinum-based therapy and doxorubicin-platinum therapy have no significant difference in efficacy, and there is no significant difference in adverse reactions. Therefore, in the treatment of platinum-sensitive, recurrent ovarian cancer patients, both options can be used as options. (ClinicalTrials.gov number, NCT04337632)

EPV180/#191 THE FEASIBILITY AND EFFICACY OF PEMBROLIZUMAB IN COMBINATION WITH CHEMOTHERAPY IN PATIENTS UNDERGOING FRONTLINE TREATMENT OF OVARIAN CANCER

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Objectives We report results of a phase II, open-label study evaluating the combination of pembrolizumab with carboplatin/paclitaxel in previously untreated advanced ovarian cancer patients (NCT02520154).

Methods Eligible patients were women with advanced high-grade epithelial non-mucinous ovarian cancer who had received up to 4 cycles of neoadjuvant carboplatin/paclitaxel chemotherapy and planned for interval cytoreduction. Following interval surgery, patients received adjuvant intravenous carboplatin/weekly paclitaxel/pembrolizumab for 3 cycles then maintenance pembrolizumab until progression, toxicity, or maximum of 20 cycles. The primary endpoint was progression-free survival (PFS). Secondary endpoints included feasibility, toxicity, and overall survival (OS).

Results Twenty-six patients were enrolled with a median follow-up of 26.9 months (range 11.0 – 49.5). Median age was 59 years and predominant histology was high grade serous (88.5%). At interval cytoreductive surgery, complete gross resection (CGR) was achieved in 21 (80.8%); 3 (11.5%) had optimal non-CGR, and 2 (7.7%) had suboptimal cytoreduction. Median PFS was 14.2 months (95% CI 12.4 – 23.0). All patients completed 3 planned cycles of carboplatin/paclitaxel/pembrolizumab. Median number of maintenance cycles was 6 with all 20 cycles completed in 6 patients. Grade 3/4 treatment-related adverse events occurred in 19 (73.1%) patients. Treatment discontinuation due to disease progression occurred in 9 patients (34.6%) and due to immune-related toxicity in 6 patients (28.6%), most commonly attributable to hepatotoxicity (n=3).

Conclusions Combining pembrolizumab with carboplatin/paclitaxel for advanced ovarian cancer patients in the frontline setting was feasible, tolerable, and resulted in PFS within the historical range for this patient population. OS is immature and translational endpoints are pending.