#249 DISTINCT VAGINAL MICROBIOME OVARIAN CANCER PATIENTS – A POSSIBLE SCREENING AND PROGNOSTIC BIOMARKER?


Introduction/Background Microbiome plays an important role in development of cancer and response to chemotherapy. Vaginal microbiome constitutes a new study field. We aim to examine the significance of vaginal microbiome in epithelial ovarian cancer.

Methodology A prospective cohort study was conducted for evaluating the vaginal microbiome in newly diagnosed epithelial ovarian cancer (NEOC) patients, post-chemotherapy (PC) patients and healthy women. Samples were collected using a swab. DNA was extracted and amplified by PCR using universal primers of the prokaryotic 16S ribosome. Next-generation sequencing and taxonomical classification was then performed.

Results Vaginal swab samples were collected from 21 NEOC patients, 27 PC and 22 controls. The microbiome analysis revealed statistically significant findings. Clostridiales bacterium S5 A14a and Anaerovoracaceae family were found to be abundant in patient who had previous malignancies (p<0.01). Clostridiales bacterium S5 A14a was also abundant in patient who had no pregnancies in the past (p<0.001). Clostridia UCG 014 family was found prominent in patient who died of disease (p<0.01).

Conclusion We demonstrated a significant difference in vaginal microbiome in EOC patients who had a history of other malignancies. Interestingly, the Clostridiales species that are prominent are studied as a risk factor for developing tumors in PTEN carrier and Anaerovoracaceae was linked to esophageal cancer. We also demonstrated Clostridia UCG 014 abundance in patients who died of disease, a finding that was previously shown in mice studies and in patients with lung cancer. This may suggest a group of patients that can benefit from microbiome mapping as a screening tool and as a marker for poor prognosis.

Expanding research in this field may lead to early diagnosis, disease prevention, and targeted therapy in patients with EOC.

Abstract #249 Figure 1 Abundance distribution pre and post chemotherapy

Disclosures non to disclose

#256 EXOSOMAL MIR-148A-3P SERVES AS TUMOR SUPPRESSOR FOR OVARIAN CANCER

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Introduction/Background Ovarian cancer (OVCA) develops resistance to cisplatin during treatment. Exosome is associated with chemoresistance in various cancers, whereas such a role in OVCA is not yet clear.

Methodology The exosomes were extracted by ultracentrifugation. High-Throughput sequencing was used to measure miRNA levels in exosomes isolated by A2780 and cisplatin-resistant A2780-DDP. Integrated with public databases, exosomal miRNAs associated with cisplatin-resistance, prognosis were identified using computational studies, including 113 machine learning-based integrative procedures and other comprehensive algorithms. The crucial miR-148a-3p were selected for further investigation based on comprehensive bioinformatics approaches. Gain- or loss-functional assays were performed to define the function of miR-148a-3p, including Quantitative real-time PCR, Western Blot, CCK8, colony formation, transwell, wound healing, flow cytometry, and dual-luciferase reporter assays. The plasma exosomes and surgical tissues were collected to detect the expression level.

Results The exosomes were characterized by measuring protein markers, performing nanoparticle tracking analyses and transmission electron microscopy. 126 differentially expressed and 12 prognostic exosomal miRNAs were observed. The prognostic exosomal miRNAs-related cluster and signature were established and validated, indicating their clinical and biological significance. Comprehensive bioinformatics approaches demonstrated crucial role of miR-148a-3p in prognosis and cisplatin-resistance. Low expression of miR-148a-3p was observed in cell and tissues, especially cisplatin-resistant samples. Nevertheless, miR-148a-3p was overexpressed in plasma exosome and cisplatin-resistant cell exosomes. We confirmed the findings in both publicly available expression profiling (a series of datasets) and the samples we collected. We found that miR-148a-3p suppressed proliferation, migration, invasion, cisplatin-resistance, and induced apoptosis, indicating the role of tumor suppressor for miR-148a-3p. Ulteriorly, the inhibition of exosome release induced miR-148a-3p intracellular accumulation, the opposite was observed in the stimulative of exosome.

Abstract #256 Figure 1 The schematic representation of the molecular mechanism miR-148a-3p in ovarian cancer

Conclusion Our data elucidated an unappreciated mechanism of miR-148a-3p in tumor suppressing and cisplatin resistance for OVCA. We uncovered that exosome exclusion of miR-


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148a-3p to promotes malignancy and cisplatin resistance of OVCA.

Disclosures The authors declare that they have no competing interests.

#257 MALIGNANT TRANSFORMATION IN A MATURE CYSTIC TERATOMA OF THE OVARY. A 5-YEAR DESCRIPTIVE STUDY

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Introduction/Background Malignant transformation (MT) in mature cystic teratoma of the ovary (MCTO) is a rare event. This descriptive study primarily aims to determine the prevalence rate of MT in MCTO and describe clinicopathologic features, management, and prognosis of patients who developed this rare type of tumor and likewise deliver a review in the light of recent literature.

Methodology A descriptive observational study of patients with MT in MCTO. The clinical and pathological records of each patient were reviewed. Descriptive statistics were used.

Results Between January 2016 to December 2020, of the 369 cases of mature cystic teratoma, 22 cases with malignant transformation were reported with an incidence of 6%. The mean age of diagnosis was 52 years, of which 70% are aged 50 years old and above. Fifty-nine percent (13/22) and 32% (7/22) of the cases were squamous cell carcinoma and mucinous adenocarcinoma, respectively. Very rarely malignant transformations were carcinoid tumors (1) and follicular carcinoma (1). The most common reason for consult among patients is a palpable abdominal/pelvic mass (45.5%). Around 60% percent of cases have an elevated CA-125 value with a mean level of 180 U/ml. Seventy-two percent of cases with malignant transformation had surgery. The median survival time is 14 months.

Conclusion MT in MCTO is not a common occurrence but should be considered in older patients with large tumor sizes and elevated CA-125. This entity suggests an aggressive behavior but complete resection and indicated adjuvant platinum-based chemotherapy may improve survival.

Disclosures none

#260 DIAGNOSIS OF MALIGNANT OVARIAN TUMORS: EVALUATION OF THE PERFORMANCE OF THE RMI 1 SCORE

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Introduction/Background The diagnosis of ovarian cancer is often established at a late stage of the evolution of the disease with the absence of universal screening method. The RMI1 (Risk of malignancy index 1) is a score to predict the risk of malignancy of a suspicious ovarian mass. The purpose of our work was to evaluate the performance of the RMI1 score in the evaluation of the risk of malignancy of suspicious ovarian masses in our service.

Methodology This was a descriptive, longitudinal, retrospective and mono-centric study conducted in the department of gynecology 'C', spread over a period of 03 years (from January 2019 to December 2021) conducted among women operated for suspected ovarian mass and meeting the criteria of suspicion. 89 patients were included in the work.

Women who were lost to follow-up were excluded.

Results The average age of the patients was 45.6 years. Concerning the circumstances of discovery, chronic abdominopelvic pain was the most frequent reason for consultation of the patients (n=39), i.e. 44.3% of the cases. A score greater than or equal to 200 suggestive of malignancy was observed in 70.5% of the cases. The suspected ovarian mass was malignant in 60.2% of cases. The malignant tumor was primary in 88.7% of cases and secondary in 11.3% of cases. The median RMI score was equal to 405 (IQR = [118.5–2034]).The RMI 1 score was significantly higher for malignant tumors (P=0.003),with an area under the ROC curve at 68.9%. 90% of the malignant epithelial tumors (n=27) had an RMI1 score higher than 200. On the other hand, 41.7% of borderline tumors had an RMI1 score < 200, i.e. a rate of about 50% of cases.

Conclusion The diagnostic contribution of the RMI1 score in our series is low compared to the literature data, and a prospective multicenter study is needed.

Disclosures The author and the co-authors have not potential conflict of interest to report.

#263 REAL WORLD EXPERIENCE WITH PARPI MAINTENANCE USE IN OVARIAN CANCER

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Introduction/Background Survival of ovarian carcinoma has improved in recent years due to determination of the homologous recombination deficit (HRD), and the use of first-line maintenance with PARP inhibitors (PARPi).

The aim of our study was to do a real world study in patients treated in our Center.

Methodology A cross-sectional longitudinal observational study was designed in a cohort of 100 patients diagnosed with