samples included in the experiment, with a subsequent increased transcription of the related genes.

Conclusion Platinum resistance may occur after multiple carboplatin pulses; epigenetic changes certainly represent a field which deserves to be explored. Although API1-TF has already been investigated as a therapeutic target in other malignancies, it has never been explored in ovarian cancer. Further comparisons will be certainly needed in order to increase the statistical power.

Disclosures none

#836 LIQUID BIOPSY ISOLATION OF CIRCULATING TUMOUR CELLS FROM EPITHELIAL OVARIAN CANCER PATIENTS AND THEIR PROGNOSTIC SIGNIFICANCE

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Introduction/Background Cancer cells that transit from primary tumours into the blood circulatory system are known as circulating tumour cells (CTCs). Research has highlighted the difficulties with detection of CTCs from ovarian cancer patients using EpCAM-based techniques, with classical EpCAM-CTC enumeration alone having limited prognostic significance. This study aims to isolate epithelial ovarian CTCs from patients using ANGLE-Parsortix technology.

Methodology Peripheral blood specimens [n=106] were prospectively collected from 54 newly diagnosed epithelial ovarian cancer patients since November 2020. Samples were taken pre and post-neoadjuvant chemotherapy, pre-surgery and during cytoreduction surgery from the central ovarian vein. Longitudinal sampling is ongoing. CTCs were isolated using Parsortix microfluidic device and immunophenotyped (CTC-ID; DAPI, CD45, CK7/panCK/EpCAM) by immunofluorescence and confocal microscopy.

Results 66% of patients recruited had at least 1 CTC detected [CTC range of 1–22 cells per 7.5 ml of blood]. CTCs were present in 74% of ovarian vein [n=19] samples [CTC range of 1–2475 cells]. Patients with ≥2 CTCs had higher CA125 levels. Median PFS was significantly lower at 13.5 months in patients with ≥2 CTCs compared to 21 months with <2 CTCs. No statistical difference was seen between pre and post neoadjuvant CTC counts, however, a number of poor chemotherapy responders had persistent CTC levels following treatment. CTC clusters were significantly isolated from the ovarian vein. Follow up of treatment response, PFS, overall survival and 1 year blood-sampling follow up is currently conducted.
UNVEILING THE POTENTIAL: NOVEL CHALCONES AS PD-1/PD-L1 PATHWAY EXPRESSION IN IMIQUIMOD TREATMENT OF HIGH-GRADE CERVICAL LESIONS

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Introduction/Background Epithelial ovarian cancer is a prevalent cancer type in women causing significant mortality rates worldwide, and remains incurable especially in advanced stages due to chemoresistance and drug-associated side effects. To address this issue, identifying novel chemotherapeutic agents with fewer side effects and enhanced anti-cancer activity is crucial. In this study, we examined a collection of chalcone analogues, which are precursors of flavonoids, to evaluate their potential as anti-cancer agents against ovarian cancer cells. Our aim is to identify novel agents that could overcome chemoresistance and improve the efficacy of ovarian cancer treatment.

Methodology In order to investigate the potential cytotoxic activity of 17 novel chalcone derivatives, we performed SRB assay on four different cell lines, including both ovarian cancer and non-tumorigenic cells. Through the application of the SRB assay, chalcone derivatives exhibiting promising efficacy against ovarian cancer cells were selected for further analysis. To further characterize the underlying cell death mechanisms, we employed various experimental approaches, including PI staining, Annexin-V staining, and western blot analysis.

Results Our study revealed that out of the 17 chalcone derivatives, 3 chalcones derivatives exhibited potent activity against ovarian cancer cells, with low IC50 values. After further investigation of the mode of action of these compounds, these derivatives were also found to induce apoptotic cell death, cause DNA damage through phosphorylation of H2AX, and affect the cell cycle in ovarian cancer cells causing sub-G1 increase.

Conclusion In conclusion, our findings suggest that the new chalcones have potential as chemotherapeutic agents in the treatment of ovarian cancer. Further research is needed to thoroughly investigate their efficacy and safety profiles, and to identify the specific mechanisms by which they induce apoptotic cell death, and cell cycle effects on ovarian cancer cells. These promising results warrant further investigation and development of these chalcones as potential therapeutic agents for ovarian cancer.

Disclosures Author(s) declare no conflict of interest.

Abstracts #852 Figure 1 (A) IC50 values of all chalcone molecules on ovarian cancer cell lines; OVSAHO, OVCAR-3, and KURAMOCHI at 72 hours. (NI: No Inhibition. It represents IC50 > 100 µM.) The figures (B) show the 50% inhibitory concentration (IC50) of MC013, MC030, an MC060 at 72 and 48 h time points respectively. (C) Cell cycle analysis using PI staining and flow cytometry readings for chalcone treated (IC75) OVCAR-3, OVSAHO, and KURAMOCHI cell lines at 48 h. (D) Representative results of MUSE Annexin-V7-AAD apoptosis assay in chalcone treated OVSAHO cells and in chalcone treated OVCAR-3 cells at 48 h. DMSO was used as a negative control. The results demonstrate a significant increase in total apoptotic cells for each chalcone molecules in both cell lines. (E) Apoptosis induction was further investigated by western blot for PARP cleavage both in OVCAR-3 cells and in OVSAHO cells at 48 h.