Introduction CD73 (ecto-5′-nucleotidase) is a membrane-bound enzyme crucial in adenosine generation. The adenosine pathway plays a critical role in immunosuppressive tumor-microenvironment (TME). The purpose of the study was to evaluate CD73 expression in TME, and its association with clinicopathological features to better understand the role of CD73-adenosine pathway in epithelial ovarian cancer (EOC).

Methods A total of 48 patients (treatment-naïve, n=35; recurrent, n=13) with epithelial ovarian cancer were enrolled in the current study. For each patient, a retrospective review of medical records was conducted. Immunohistochemical staining for CD73 was performed using paraffin embedded tissue block. CD73 expression level were graded on a scale of 0 to 3.

Results Median age was 59 years (range 38–84 years), and the majority of the patients presented with high-grade serous carcinoma (HGSC, 85.4%) and stage III-IV disease (89.6%) at diagnosis. Among the treatment-naïve patients, 17.1% of patients (n=6) showed low CD73 expression (grade 1), whereas 60.0% of patients (n=21) showed high CD73 expression (grade 2/3). All of the BRCA1/2-mutated tumors were high CD73 (n=7), whereas 20% of BRCA1/2-non-mutated tumors (n=5) were low CD73 expression. The CD73 high group showed better PFS compared to the CD73 low group (median PFS 20.1 versus 11.9 months, P=0.043). Among the recurrent patients, 84.6% of patients (n=11) showed high CD73 expression (All HGSC [n=10] were high; all clear cell carcinoma [n=2] were low).

Conclusion/Implications Our study suggests that higher CD73 expression is associated with favorable survival outcomes in EOC. Further studies are needed to explore the role of CD73 in EOC.

ORGANOIDS AS PRE-CLINICAL MODELS TO ASSESS THE EFFICACY OF HEATED INTRAPERITONEAL CHEMOTHERAPY IN MUCINOUS OVARIAN CANCER

Introduction Mucinous ovarian cancer (MOC) is a rare subtype of epithelial ovarian cancer (EOC) comprising <5% of cases. Despite its rarity MOC contributes significantly to the poor outcomes seen with EOC due to its inherent resistance to platinum-based chemotherapy regimens. Heated intraperitoneal chemotherapy (HIPEC), where a single dose of heated chemotherapy is given at surgery, has gained traction in recent years following benefits seen in high grade serous ovarian carcinoma and colorectal carcinoma. Data on the use of HIPEC in MOC remains limited.

Methods Following the development of successful MOC organoid models, we undertook drug screening with eight chemotherapy agents often used in HIPEC. To simulate HIPEC conditions, we incubated our organoid models at 43°C for 120 minutes following addition of the chemotherapy agent. Drug