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### PATIENT DERIVED ORGANIDS AS EX-VIVO MODELS FOR HIGH GRADE SEROUS OVARIAN CANCER RESEARCH

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10.1136/ijgc-2023-IGCS.315

**Introduction** Patient-Derived Organoids (PDOs) are in increasing use as ex-vivo models for high-grade serous ovarian cancer (HGSOC) and other cancers, given their genotypic and phenotypic correlations with in vivo tumour. We aimed to characterise inter- and inpatient heterogeneity in PDOs from multiple sites in chemo-naïve HGSOC.

**Methods** Multi-site tumour samples were collected from HGSOC patients undergoing primary cytoreductive surgery and PDOs grown from extracted tumour cells with/without the Wnt agonist R-spondin. PDOs were trialled against chemotherapies and targeted therapeutics using IC50 and AUC for comparison. Transcriptomic differences between PDOs were explored using RNAseq.

**Results** PDOs were successfully established ( $\geq 5$  passages) in 8/14 cases (57%), with a mean  $n=5$  sites initially seeded per patient. IC50 and AUC values for platinum compounds and PARP inhibitors varied significantly between patients, and between different sites from the same patient. Cisplatin sensitivity varied 20-fold across 8 different PDO lines ( $p<0.0001$ ), with carboplatin sensitivity differing by almost 10-fold between different tumour sites in one case ( $p<0.0001$ ) highlighting HGSOC inter/inpatient heterogeneity. Rucaparib sensitivity variability was demonstrated between cases and between sites from the same case ( $p<0.001$ ). Resistance was induced in 2 PDO lines through culturing in low dose conditions, with AUC increments were observed for cisplatin ( $p<0.01$ ) and rucaparib ( $p<0.05$ ) compared to controls. Potentially synergistic compounds to overcome platinum and PARPi resistance were trialled.

**Conclusion/Implications** HGSOC PDOs provide a reliable model for drug screening, incorporating inter and intra-patient heterogeneity. The heterogeneity observed provides rationale for variability in clinical responses and the poor prognosis consistent with advanced HGSOC.

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### TITLE UNDERSTANDING CURRENT PRACTICES FOR THE MANAGEMENT OF ADVANCED EPITHELIAL HIGH-GRADE OVARIAN CANCER IN THE UK: INTERIM DATA FROM THE OC-NOW SURVEY (2023)

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10.1136/ijgc-2023-IGCS.316

**Introduction** Background Advanced high-grade ovarian cancer (OC) treatment has recently evolved to include novel targeted

agents such as PARP-inhibitors. Our survey explores current management of advanced OC in the UK.

**Methods** Methodology This interim descriptive analysis uses data collected between March-April 2023 from structured interviews with UK-based healthcare professionals (HCPs) involved in secondary care management of advanced OC (OC-NOW).

**Results** The analysis included 50 OC MDT members. Respondents were mainly based in England (84%; 42/50). Most HCPs (68%; 19/28) used the DESKTOP-III criteria to identify candidates for secondary cytoreduction, with up to 30% of patients considered as eligible in 85% (23/27) of centres. HRD (100%; 41/41) and BRCA1/2 (98%; 40/41) were routinely tested before planning maintenance treatment. Most respondents (90%; 36/40) reported that HRD test results had a turnaround time of 6 weeks. The median number (interquartile range [IQR]) of patients with a BRCA mutation (BRCAmut) was 20.0% (15.0–20.0%), while 25.0% (18.8–30.0%) were HRD (test positive) and BRCA wild type (HRD/BRCAwt), 49.0% (35.0–60.0%) were HRp (test negative) and 10.0% (5.0–11.2%) were HRnd (HR test failure/not determined/inconclusive). Platinum sensitivity was seen as predictive of PARPi maintenance therapy benefit, irrespective of HRD status (table 1).

**Conclusion/Implications** Conclusion These results provide an update on UK practice in advanced OC. HRD and BRCA1/2 are now routinely assessed with turnaround times on time for maintenance therapy decision making. For Platinum Sensitive OC, PARPi maintenance is typically considered irrespective of HRD status

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### INFLUENCING FACTORS AND MANAGEMENT STRATEGIES FOR PERIOPERATIVE COMPLICATIONS OF DIAPHRAGMATIC SURGERY IN OVARIAN CANCER

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10.1136/ijgc-2023-IGCS.317

**Introduction** The diaphragm is a common site of metastasis in advanced ovarian cancer. The development of diaphragm tumor resection surgery is beneficial for achieving complete tumor cell elimination and also poses challenges to the management of perioperative complications. This study aims to explore the influencing factors and prevention and treatment strategies for complications of diaphragm surgery.

**Methods** This study included advanced ovarian cancer patients who underwent diaphragm tumor resection surgery at Fudan University Shanghai Cancer Center from July 2015 to June 2022. Clinical and pathological characteristics, diaphragm surgical methods, and perioperative complications were retrospectively collected.

**Results** A total of 396 patients with advanced ovarian cancer were included. 163 patients had perioperative complications, whereas pleural effusion (32.6%), infection (8.3%), and pneumothorax (5.3%) were the most commonly reported. Patients with longer surgery duration ( $>3$  hours) and higher surgical difficulty (Aletti score  $>5$ ) had a higher incidence of postoperative complications ( $p<0.01$ ), particularly pleural effusion