550 NOVEL 3D MODEL SYSTEMS TO ASSESS HETEROGENEITY IN RESPONSE TO PLATINUM THERAPY IN HIGH GRADE SEROUS OVARIAN CANCER

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Introduction/Background High-grade serous ovarian cancer (HGSOC) is the most common subtype of ovarian cancer, characterised by vast genomic instability and heterogeneity and acquired resistance to platinum-based chemotherapy. However, matching the most beneficial treatment options to patients is difficult to predict due to different platinum resistance mechanisms and limited effective predictive biomarkers. A study characterising intra-tumoural heterogeneity in HGSOC has identified variations in phenotypic responses to platinum treatment between different metastatic sites. In this study, we aim to develop novel clinically-relevant 3D ex-vivo models of HGSOC to investigate the effect of the local microenvironment on metastatic tumour cells’ response to treatment, and potential use as a screening tool to predict drug responses.

Methodology Three different ex-vivo models were developed: organotypic, organoid and tumour slice. For organotypic and organoid models, tumour cells were extracted from metastatic deposits obtained from defined anatomical regions during upfront radical debulking surgery of advanced stage HGSOC patients. Organotypic models were assembled using normal omental stromal cells embedded in Collagen-1 and tumour cells were added. Organoid models were propagated from tumour cells and embedded in basement membrane extract. For slice culture models, tumours were sliced into 350 μm sections using a vibratome and cultured on cell culture inserts. All models were treated with cisplatin and assessed for apoptosis and viability read-outs.

Results Organotypic models showed that tumour cells cultured in 3D showed heterogeneity in response to cisplatin treatment, data showed a trend towards reduced response to treatment within 3D models compared to 2D (n=8). Changes in patterns of response to treatment between samples from 2D to 3D within the same patient was also demonstrated (n=5). Organoid models were successfully propagated from different metastatic sites and maintained long term growth (>15 passages). Histological read-outs for slice culture models demonstrated slices from different metastatic sites maintained viability in culture for up to 5 days.

Conclusion We have established growth, drug treatment conditions and assay read-outs for 3 different ex-vivo models of metastatic HGSOC. We have established that organoid culture must be generated within 24hours of tumour cell extraction. Furthermore, both fresh and viable frozen tumours can be used to generate organotypic and organoid models. The broader implication of establishing clinically-relevant complex tumour models as routine methodologies for screening novel therapeutics and capturing the complex heterogeneity of individual patients, may lead to better development of therapeutic strategies including tumour/microenvironment combination strategies and also better personalisation of therapy for patients with HGSOC.

Disclosures CF: advisory boards and honoraria from Roche, Tesaro, Sequana, Olympus, Astra Zeneca. Other authors have no disclosures to declare.

393 A CLINICAL AUDIT OF MOLAR PREGNANCIES AND GESTATIONAL TROPHOBLASTIC NEOPLASIA CASES OVER 1YR IN A TERTIARY CARE HOSPITAL OF EASTERN INDIA WITH RESPECT TO THE INCIDENCE OF DISEASE, FACTORS RELATED TO ETIOPATHOGENESIS, DIAGNOSIS AND MANAGEMENT

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Introduction/Background A Clinical Audit of molar pregnancies and gestational trophoblastic neoplasia cases over 1yr was conducted at Kolkata Medical College & Hospital, a tertiary care hospital of Eastern India with respect to the incidence of disease, factors related to etiopathogenesis, diagnosis and management and effects on maternal morbidity and mortality.

Methodology A total of 10000 patients attended this institution during 2017 June to 2018 June for pregnancy or its complication in department of gynaecology & obstetrics. 85 molar
pregnancies and their sequelae were followed up in medical oncology. The data was collected from out patient & in patient tickets & admission registrars and was analysed by descriptive statistics.

**Results** Most cases were seen amongst the second gravida 40%, Hindus 53.3%, low socio-economic strata 72%. Predominant Blood group was B 53%. Hemoglobin below 10 mg/dl was seen in 94%. 21.33% of patients had haemoglobins below 6 gm/dl. Most of the patients of Hydatidiform Mole (50%) were diagnosed within a period of amenorrhea of 8–12 weeks with 70% of cases diagnosed with amenorrhea of less than 16 weeks. 18% of patients were diagnosed after a period of amenorrhoea of greater than 20 weeks. The most common presenting symptom in cases of Hydatidiform Mole was Bleeding per vagina 74%. Features of Hyperthyroidism & respiratory distress were seen in 5% of patients. The most common signs were pallor 65%, pre-eclampsia were seen in 17.33% of patients.

Suction & Evacuation 58.66% with Oxytocin infusion was the predominant mode of management in cases of Hydatiform Mole. Ligation was done in one patient considering the risk of repeat molar pregnancy in future conception.

**Mode of diagnosis** were clinical (74%), & USG in 68%.

Persistent Gestational Trophoblastic Disease and Choriocarcinoma were diagnosed during follow up by symptoms of irregular bleeding P/V; elevated beta HCG titre and abnormal USG pelvis and chest X-Ray.

Chemotherapy was the predominant mode of treatment of GTT. Hysterectomy was done in 2 patients of Invasive mole.

Single agent chemotherapy with Methotrexate in 20 patients 83.33% i.e low risk GTT. EMA-Co regimen was the preferred multiagent chemotherapy used in 4 patients 18% (upfront) and in 2 patients progressing on methotrexate, surgery in 1 patient not responding to EMACO or EMA-EP.

Toxicity of chemotherapy was predominantly, Nausea & vomiting (38.89%) mucositis (27.78%). Hepatotoxicity and infection was seen in 11.11% of patients. Grade 3/Grade 4 toxicity was nil.

**Conclusion** Though the proportion of molar pregnancies & gestational trophoblastic neoplasia is not much in comparison to the heavy attendees in the gynaecology and obstetrics opd but they represent a highly curable one with minimally intense chemotherapy thus avoiding unnecessary hospital stay due to chemotoxicity.

**Disclosure** I do not have any conflict of interest with any person or organization.