respectively. The sensitivity and specificity of 3D USG with power Doppler were 84% and 88% respectively with area under the curve 0.96 (95% CI=0.92–0.99). With simple rules, 11.9% (10/84) cases were inconclusive of which 3D USG correctly discriminated 50% malignant cases (3/6).

Conclusion: Both IOTA simple rules and 3D USG with power Doppler have a good ability to differentiate benign from malignant adnexal masses. 3D USG does not provide any added advantage over IOTA simple rules. However, the potential use of 3D USG as a second step test in inconclusive masses should be the subject of further evaluation.

Poster (O04)

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Copy number alterations feature of normal adjacent tissue as a novel biomarker for tumor burden in epithelial ovarian cancer patients

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Objective: Ovarian cancer typically presents high recurrence rate due to the propensity for ovarian cancer to disseminate throughout the peritoneum. Currently, there are limited studies based on genomic characteristics on histologically normal tissue adjacent to the tumor (NAT), we hereby characterized the genome-wide copy number alterations (CNAs) of NAT.

Methods: Seventeen blood samples, 10 tumor tissues (TT) and 10 NAT were collected from 10 patients with histologically confirmed diagnosis of ovarian cancer. All samples were sequenced to genome-wide coverage of 1×. IchorCNA were used to determined tumor fraction (TF) in each samples with bin resolution of 1 Mb.

Results: The 3/10 (30%) NAT samples revealed evidences of global CNA with TF of 10.72%, 4.77% and 25.67%, respectively. TF in their corresponding ctDNA samples were 15.55%, 0%, 13.08%. The rest of patients have average TFs of 0.65% and 2.23% for ctDNA and NAT. A strong correlation between NAT and ctDNA in TF was observed. No significant difference in International Federation of Gynaecology and Obstetrics stages were observed between 2 subgroups. We subsequently analyzed CNA concordance among TT/NAT, TT/ctDNA, NAT/ctDNA pairs. NAT TF-positive patients showed high concordance (median values of 29.07%, 35.42% and 31.85%) whereas NAT

TF-negative patients showed considerably lower concordance between their TT and NAT (0%–5.42%).

Conclusion: Our results presented a subgroup of patients that exhibits high tumor fraction in both NAT and ctDNA. Their genomes altered in a much similar manner compared with low-TF patients. This phenomenon provided an early version of tumor aggressiveness and may becoming a promising biomarker for prognosis and recurrence.

Poster (O05)

Epithelial Ovarian Cancer including Borderline Tumor
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Correlation between preoperative PCI imaging and intraoperative PCI measurement in peritoneal carcinomatosis secondary to ovarian, tubal and primary peritoneal carcinoma

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Objective: To evaluate the correlation between preoperative and intraoperative percutaneous coronary intervention (PCI), the secondary objectives were to determine whether PCI could predict surgical oncologic outcomes and to identify factors statistically significant to the optimal surgical outcome.

Methods: In a prospective cohort study, women with advanced-stage epithelial ovarian cancer or primary peritoneal cancer or fallopian tube cancer who underwent either primary cytoreductive surgery or interval debulking were included. The preoperative computed tomography (CT) scan findings and intraoperative measurement of the peritoneal carcinomatosis were evaluated by PCI and their correlation was determined using Spearman coefficient.

Results: A total of 55 women were enrolled, 52 patients were eligible and analyzed. Mean preoperative and intraoperative PCI were 5.04 and 7.27, orderly. Twenty-nine patients achieved optimal surgery (55.8%). There is a moderate correlation between the PCI obtained from CT image and surgical findings ($r=0.510$, $p<0.001$). The significant cutoff values of preoperative PCI and intraoperative PCI to predict optimal surgical outcome could be 7 and 8 respectively. In a univariate analysis, ECOG-0, preoperative CA125 <416 U/mL, preoperative PCI <7 and intraoperative PCI <8 were significantly associated with the optimal surgical outcome. While with multivariate analysis, preoperative CA125 <416 U/mL and intraoperative PCI <8 were only independent factors related to the optimal surgery.

Conclusion: Our correlation between preoperative PCI and

intraoperative PCI is particularly measurable. With lesser PCI that would predict optimal surgical outcome, the preoperative PCI from a practical imaging would be useful as a predictive method to assess possibility of an optimal cytoreduction and the optimal time of surgery as well.

Poster (O06)

Epithelial Ovarian Cancer including Borderline Tumor

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Correlation of CD47 expression and treatment response to neo-adjuvant chemotherapy in advanced epithelial ovarian cancer

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Objective: To study the expression of CD47 and its correlation with treatment response to neo-adjuvant chemotherapy (NACT) among patients with advanced ovarian malignancy (CD47 may play an inhibitory role in NK cell-mediated cytotoxicity against cancer cells, implying a possible mechanism of immune escape in cancer cells leading to aggressive behavior. Overexpression of CD47 increases the risk of metastasis and is negatively correlated with prognosis).

Methods: In this hospital-based cohort study, 92 patients diagnosed with advanced ovarian cancer decided for NACT were recruited. Baseline clinical data, including cancer antigen 125 levels and contrast enhanced computed tomography findings, were noted. These women were subjected to image-guided fine needle aspiration cytology of the ovarian tumor for pathological diagnosis. We prepared cell blocks for immunohistochemistry and studied CD47 expression. After 3 cycles of NACT, patients were assessed for treatment response. Among patients with good treatment response and deemed to be operable after 3 cycles of NACT, interval cytoreductive surgery was performed. The level of cytoreduction was studied among these patients and was correlated with CD47 levels.

Results: Out of 92 patients, 61 were assessed to have a good response to NACT after 3 cycles and underwent interval cytoreduction. Among these, six patients had suboptimal cytoreduction. Around 19 (86.5%) women with high CD47 expression and 36 (92.6%) women with low CD47 expression had optimal cytoreduction (R0 and R1). But the difference is statistically insignificant. Out of 36 women with high CD47 expression, 17 (47.2%) women had a poor response compared to 19 (52.8%) women who had a good response. Around two-thirds of the patients with low CD47 expression had a good response

to NACT. But the difference is statistically insignificant.

Conclusion: The 39.1% of patients had high CD47 expression in our study, much lesser than reported in the published literature. There was no significant association between CD47 expression and response to NACT in patients with advanced epithelial ovarian malignancy in our study.

Poster (O07)

Basic/Translational Science

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Digital spatial profiling of metastatic clear cell carcinoma reveals intra-tumor heterogeneity in epithelial-mesenchymal gradient

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Objective: Advanced ovarian clear cell carcinoma (OCCC), known to harbor intra-tumor heterogeneity (ITH), is chemoresistant and poor prognostic, possessing distinct molecular and histological characteristics. However, detailed spatial information of the nature of ITH within OCCC remains unclear. Here, we aim to decipher the hidden spatial information within the tumor samples of primary (Pri) and colonic metastatic (Met) sites from one advanced OCCC patient and build up a geospatial analysis pipeline for further exploratory study.

Methods: NanoString Digital spatial profiling (DSP) GeoMx platform was utilized to perform multiplex protein expression analysis on OCCC samples, and 18 to 19 regions of interest (ROIs) were selected per sample. Tumor cells were classified into different subgroups based on the expression patterns from the heatmap of the clustered data.

Results: The 47.6% of the PanCK-positive segments of ROIs from Met were clustered into C2_tumor, while those from Pri were mostly clustered into C1_tumor, suggesting that Met were more heterogeneous (χ^2 test, $p=0.00371$). For tumor cells from different subgroups in Met, the difference between the expression levels of PanCK, SMA, Ki-67, FN, NCAM and ITGAX were statistically significant, which reflected the existence of an epithelial-mesenchymal (EM) gradient within Met (1-way