

these solitary cancer cells were attached to endothelium of vascular or lymphatic vessels. Their solitary character and lack of proliferation combined with SOX2-positivity suggests a stem cell state, which could explain why these cells are unaffected by neo-adjuvant chemotherapy.

**Disclosures** We are currently in the proces of collecting a larger sample set to further investigate this phenomenon.

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### VARIATIONS IN NEUROENDOCRINE TUMORS PRESENTATIONS: OXFORD GYNECOLOGY CANCER CENTER EXPERIENCE IN ONE YEAR

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**Introduction/Background** NETs are rare tumours most commonly occurring in the pancreas, and represent about 2% of female genital cancers. The cervix and ovaries are the most common locations. They can vary in their behaviour though many require surgery/chemotherapy. Encountering 4 cases in a year is unusual and we present them here:

**Methodology** Case series of 4 cases over one year.

**Results** Our 4 cases, presented as suspected ovarian cancer. Ages ranged from 55–71. In two cases, the primary was in the appendix or in small bowel. Our 3rd case, presented as stage IIIc extensive peritoneal disease and diagnosed as metastatic well differentiated G3 NET Ki 67 index of 25%, which was inoperable. Our 4th case, was a well differentiated G1 NET (carcinoid) arising within a mature teratoma, with Ki 67 proliferation index < 1%. All tumours stained positively for chromogranin, synaptophysin, CDX2, CK 8/18, and negatively for CK 20, CK7.

**Treatment strategies varied** 1st case metastasizing from small bowel ( G2 well differentiated NET, KI 67 9% ) had debulking surgery and bowel resection-with residual retroperitoneal and mesenteric nodes - followed by somatostatin analogue injections. Her last follow up (1y ) gallium scan showed overall stable disease. 2nd case metastasizing from appendix had debulking surgery, followed by lung lobectomy for carcinoid tumor and awaiting further plan. Our 3rd case ( inoperable ) had chemotherapy in form of capecitabine and temozolomide for 6 cycles. Her scan ( 9months ) showed good treatment response. 4th case, had BSO and recommended for interval scans.

Follow up period was short (1m-1y), but all cases are still alive.

**Conclusion** NET though rare can present in many ways. There is no specific optimum therapy due to the paucity of case. In Oxford the approach varied and management was joint with NET specialized team.

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### CHARACTERIZATION OF PLATINUM RESISTANCE STATUS BY WGCNA CO-EXPRESSION MODULES IN OVARIAN CARCINOMA PATIENTS

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**Introduction/Background** Platinum resistance development in epithelial ovarian cancer (EOC) is still one the major obstacle in successful treatment, due to the fact that ~ 80% of patients develop drug resistance within 5 years after adjuvant chemotherapy. This study aimed to provide insight to co-expression networks in dependency to platinum resistance status, which could help with better understanding of molecular background of resistance development.

**Methodology** Estimation of expression profile was done by RNA sequencing and co-expression analysis was performed in two independent datasets: i) training set of 60 EOC patients with defined platinum resistant status and ii) validation TCGA-OV set (N=426). Co-expression networks were analyzed by the WGCNA method by Langfelder and Horvath and Cytoscape platform was used for network visualization.

**Results** Co-expression network analysis in the training set showed ~ 30 gene modules which significantly associated with patients overall survival and platinum resistant status. Module with the strongest correlation with platinum sensitive status were characterized by high expression of immune system related genes (especially T-lymphocyte activation). Module strongly correlating with OS was characterized by adhesion and migratory genes. Gene of interest, NOTCH3, was one the most correlating genes with platinum resistant status of EOC patients. Dominant modules were further observed and validated in the TCGA-OV validation set, especially immune system a migration pathways genes enriched expression modules.

**Conclusion** Analysis of co-expression networks in regard to platinum resistant status showed ~ 30 gene modules with significant association. Major modules were enriched by immune system related genes and by genes involved in cell migration and adhesion pathways.

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