surgery of ovarian or peritoneal carcinoma, decreasing the morbidity of the surgery.

IGCS19-0098

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MRNA AND PROTEIN EXPRESSION OF E-CADHERIN AND VIMENTIN AND P53 IMMUNOHISTOCHEMISTRY IN EPITHELIAL OVARIAN CANCER

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Objectives This study was designed to correlate expression of epithelial mesenchymal transition (EMT) pathway markers i.e., E-cadherin and Vimentin with surgicopathological extent of EOC and to type the tumour using p53 immunohistochemistry staining.

Methods Women with malignant and benign epithelial ovarian tumours were studied. Sample size was calculated with 80% power and 5% level of significance ;22 cases (EOC) and 22 controls (benign ovarian tumour) were recruited. m-RNA and protein expression of E-cadherin and vimentin was done by real time PCR and IHC staining and p53 by IHC. Peritoneal extent of disease was calculated by peritoneal carcinomatosis index (PCI) and tumour resection by completeness of cytoreductive score (CCS) and correlations derived.

Results In advanced EOC, positive correlation was found between PCI and CCS with correlation coefficient of 0.495, p-value < 0.0193. When PCI less than 10 (n=10), CCS0 was achieved. m-RNA expression of E-cadherin was 2.126 times downregulated and of vimentin 2.733 times upregulated in malignant vs. benign tumours. Protein expression of E-cadherin was high in benign vs. malignant EOC (p=0.387) and vimentin protein expression was overexpressed in EOC (p=0.007). No correlation was obtained between EMT markers and metastatic deposits, lymph node or bowel involvement. p53 was expressed in 90.9% (n=10) high grade serous carcinoma and none in low grade serous carcinoma.

Conclusions Expression of E-cadherin decreased and Vimentin increased in EOC which is in synchrony with EMT pathway, however larger studies are needed to derive an association between these markers and extent of disease.

IGCS19-0296

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MUTATIONAL PROFILING OF BRAZILIAN MUCINOUS ADENOCARCINOMA OF THE OVARY

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Objectives To investigate the mutational profiling associated with Brazilian mucinous adenocarcinoma of ovary.

Methods We included 47 patients from Barretos Cancer Hospital, from 2009 and 2015. The mutation profile of a panel of hotspot regions of 15 cancer drivers (AKT1, BRAF, EGFR, ERBB2, FOXL2, GNA11, GNAQ, KIT, KRAS, MET, NRAS, PDGFRA, PIK3CA, TP53) was performed by NGS using the Illumina TruSight Tumor 15 panel on MiSeq instrument (Illumina, USA) in a subset of cases. Hotspots regions of the KRAS (codons 12 and 13) were screened by PCR followed by direct Sanger sequencing. Finally, HER2 amplification was evaluated by immunohistochemistry (IHC) and *in situ* hybridization (FISH).

Results HER2 IHC was performed in 27 samples that showed absence of staining in 25 (92.6%). Two samples (7.4%) showed inconclusive IHC reaction, and FISH analysis showed HER2 amplification in both cases. Clinically, both cases had pseudomixoma peritonei and 1 had disease recurrence. For KRAS Sanger sequencing, conclusive results were obtained in 25 cases due to DNA quality issues. KRAS mutations were found in 10 samples (40%), and were associated with no recurrence (p=0.036). The TruSight Tumor 15 panel was possible only in 16 samples. All samples showed at least one mutation in one gene and the most mutated genes were: TP53 and KRAS (10 mutations each), BRAF (4) and HER2 and PIK3CA (1).

Conclusions We identified potential therapeutic targets in Brazilian mucinous adenocarcinoma of ovary that could be investigated in future new clinical trials. In addition, the presence of KRAS mutations was associated with better patient outcome.

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A CASE STUDY ON OVARY METASTATIC MELANOMA

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Objectives Melanoma accounts for 3% of skin neoplasms in Brazil, with an incidence of 1.7% in women in the year 2018, according to the National Institute of Cancer. It can appear in any part of the body, but the skin is the primary site in 90% of cases. In 2–3% of the cases, the primary site is unknown. In this context, the objective is to present a rare case of ovary metastatic melanoma.

Methods We present a case report of a 36-year-old patient who underwent bilateral oophorectomy and tubo-ovarian abscess drainage due to an acute inflammatory abdomen. Initially anatomopathological results of ovary dysgerminoma showed a 11 cm tumor with approximately 10% tumor necrosis and index mitotic 6/10. Histopathology study showed a superficial spreading melanoma, while immunohistochemistry discrimination was positive for S100, HMB-45, and Melan-A.

Results The case evolved with right inguinal lesion and bilateral adnexal tumors. Positron emission tomography showed multiple peritoneal implants, metastatic lesions in the lumen

of the gastric body, peritoneal implants, and abdominopelvic lymph node enlargement. Biopsy of right inguinal lymph node and stomach biopsy returned positive for metastatic melanoma. The patient is currently being treated with immunotherapy.

Conclusions The cutaneous melanoma dissemination to the gynecological tract is rare. The prognosis depends on the initial state and in advanced stages the prognosis declines, mainly due to the high rate of metastases, which are mostly lymphatic. Our case report demonstrates a diagnosis of ovarian malignant melanoma which simulated primary ovarian cancer. The differential diagnoses are sex cord-stromal tumors and germ cell tumors.

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CLINICAL OUTCOMES ASSOCIATED WITH EZH2 EXPRESSION IN HIGH-GRADE OVARIAN SEROUS CARCINOMA

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Objectives Enhancer of Zeste homologue 2 (EZH2), a primary methyltransferase, is over-expressed in cisplatin-resistant ovarian cancer cell lines. We used immunohistochemistry to study the association between EZH2 expression and clinical outcomes in women with high-grade serous ovarian carcinoma (HGSOC).

Methods Levels of EZH2 expression were evaluated in a tissue microarray that included 99 HGSOC cases and 14 non-neoplastic fallopian tube controls. EZH2 expression was quantified by digital microscopy and H-score (0 to 300) was calculated by multiplying percentage of positively stained cells with nuclear intensity. Results were correlated with clinicopathologic parameters. Treatment response was considered complete when patients demonstrated a disappearance of all measurable disease or normalization of CA-125 level for 4 weeks.

Results Most cases (N=73) had a complete response to chemotherapy. EZH2 expression was upregulated in neoplastic tissue compared to normal controls ($P<0.0001$) and, among tumors, was upregulated in cases with suboptimal debulking ($P=0.03$). EZH2 expression was not associated with stage of disease ($P=0.95$) or response to chemotherapy ($P=0.14$). However, out of 4 cases that displayed high-expression (>90th percentile) of EZH2 in all cores, 3 were incomplete responders ($P=0.04$). Median overall survival (OS) for patients was 46 months and did not vary by average EZH2 expression ($P=0.11$); however, high-expressing patients had borderline survival benefit in multivariate analysis ($p=0.06$).

Conclusions EZH2 expression does not appear to be predictive of chemotherapy response or overall survival in HGSOC. Whether outliers with high expression of EZH2 are at increased risk for incomplete response yet have potentially better OS is worth further exploration.

IGCS19-0289

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SERUM VITAMIN D DEFICIENCY AND RISK OF EPITHELIAL OVARIAN CANCER IN LAGOS

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Objectives Ovarian cancer is the second most common female genital cancer in Nigeria. This study aimed to determine the association between serum vitamin D level and risk of ovarian cancer in women in Lagos, Nigeria.

Methods We conducted a cross-sectional study from the 1st August 2016 to 31st May 2017. Demographic characteristics including type of clothing, average hours spent outdoors and skin complexion of 35 women with primary epithelial ovarian cancer and 35 apparently healthy women were obtained using questionnaires. Venous blood was taken from each participant to determine serum 25-hydroxyvitamin D [25(OH)D] level using vitamin D ELISA kit. Mann-Whitney U and Chi square tests were used to compare the median 25(OH)D levels among the two groups. Binary logistic regression analysis were conducted to evaluate the relationship between vitamin D levels and the risk of ovarian cancer.

Results The mean age of the participants was 50.6(± 11.1) years. The incidence of vitamin D deficiency ($\leq 20\text{ng/ml}$) among all the participants was high (62.9%) but the median vitamin D level in the ovarian cancer patients was lower as compared to the healthy women (13.5ng/ml, 95%CI: 9.2 – 21.2 vs 20.0ng/ml, 95% CI: 13 - 37.2, $p\text{-value} = 0.0061$ respectively). Vitamin D deficiency was associated with a four-fold risk of developing epithelial ovarian cancer ($p\text{-value} = 0.049$).

Conclusions This study revealed that low circulating 25(OH)D levels may be associated with the risk of epithelial ovarian cancer. We recommended a large prospective longitudinal study to evaluate the association between serum vitamin D levels and epithelial ovarian cancers in women in Nigeria.

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FIRST-TO-SECOND PROGRESSION-FREE SURVIVAL RATIO AS A PREDICTOR FOR OVERALL SURVIVAL IN OVARIAN CANCER

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Objectives We aimed to evaluate the impact of first-to-second progression free survival (PFS1/PFS2) ratio on overall survival (OS) in patients with ovarian cancer.

Methods A retrospective cohort study of all patients with ovarian carcinoma treated in one university-affiliated medical