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335 HOXA9 METHYLATION IN CIRCULATING TUMOR DNA AS A PROGNOSTIC BIOMARKER IN PATIENTS WITH PLATINUM-RESISTANT OVARIAN CANCER

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Objectives Platinum-resistant ovarian cancer (OC) remains a challenge with few or no treatment options. Methylation of the HOXA9 gene has been found in plasma of patients with OC. It does not, however, occur in blood from healthy individuals. The aim of this study was to evaluate if HOXA9 methylation could predict outcome and identify patients who can benefit from palliative chemotherapy.

Methods Plasma from 27 patients with platinum-resistant OC was analyzed by digital PCR with a HOXA9 methylation-specific assay at baseline and before cycle two. The fractional abundance of methylated HOXA9 was calculated and the patients with values increasing above the 95% confidence interval of baseline values was compared with patients having stable or decreasing values. The primary endpoint was progression free survival (PFS).

Results At baseline 22 patients (81.5%) had measurable HOXA9 methylation in plasma. Patients (N=4) with a significant increase in HOXA9 methylation after the first cycle had a median PFS of 1.4 months compared to 5.4 months in patients (N=23) with stable or decreasing HOXA9 (p=0.0019). Nine patients were HOXA9 negative before cycle two. The median PFS in this group was 9 months compared to 2.6 months for patients (N=18) with measurable HOXA9 at second cycle (p=0.001) (figure 1).

Abstract 335 Figure 1 PFS HOXA9 status at 2nd treatment cycle

Conclusions The study demonstrated that an increase in HOXA9 methylated DNA could be used as an early marker to predict poor outcome in platinum-resistant OC. Furthermore, absence of HOXA9 methylation was prognostic favorable indicating the potential to identify patients who can benefit from palliative chemotherapy.

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336 INCREASED CA125 LEVELS AND SEROUS HISTOLOGICAL SUBTYPE ARE ASSOCIATED WITH MICROINVASION IN WOMEN WITH BORDERLINE OVARIAN TUMORS

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Objectives We aimed to assess the following morphological characteristics of serous and mucinous borderline ovarian tumors (BOT) as stratified by Kurman: microinvasion, non-invasive implants or/and invasive implants, linfo-nodal invasion, microinvasive carcinoma, intraepithelial carcinoma and mural nodules. Once they were determined, we assessed the relationship between microinvasion and clinical characteristics and the other morphological features addressed above.

Methods 74 women with serous and mucinous BOT were selected. Two experienced pathologists following Kurman criteria determined morphological characteristics. Disease-free was calculated and compared to presence of microinvasion as well as clinicopathological features. We also calculated the relation between the presence of microinvasion and all other morphological features.

Results A mean follow-up period of 57.6 months was achieved where 48% of patients had serous BOT and 52% had mucinous tumors. Microinvasion was the most frequent morphological feature detected in both subtypes. The patients with microinvasion had higher CA125 levels (172.6 + 255.9U/mL vs. 78.6 + 114.5U/mL; p=0.04) than their counterparts. In addition, in patients with microinvasion, the serous subtype was more prevalent than in those patients without microinvasion (65.4% vs. 38.2%; p=0.02). Microinvasion was not associated with any other clinical characteristic nor the presence of any other morphological feature.

Conclusions Microinvasion is one of the most controversial BOT feature considering management, prognosis and follow-up. In our study, microinvasion was significantly associated with higher CA125 levels and serous subtype. In ovarian cancer, CA125 levels are associated with disease extent. Therefore, higher CA125 levels in women with microinvasion may indicate tumors affecting more aggressively the celomic epithelium.

IGCS19-0551

337 INCIDENCE AND PATTERNS OF RECURRENCE OF OVARIAN CANCER IN INDIA; A STUDY FROM CANCER CENTER IN NORTHERN INDIA

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Objectives

1. To calculate the disease-free survival (DFS) and overall survival (OS) in ovarian cancer patients with non-metastatic disease and stage IV disease with pleural effusion only.
2. To assess the paclitaxel/carboplatin related toxicity profile in study group cases.

Methods Medical records of 620 cases of ovarian cancer from Rajiv Gandhi Cancer Institute and Research Centre Delhi during years 2012–2013 were screened. 118 cases were selected as per the inclusion and exclusion criteria. The detailed data regarding patients' clinical history, tumor characteristics, therapy, and recurrence etc. were assembled from their clinical records. The statistical analyses were performed using IBM SPSS Statistics for Windows, Version 23.0.

Results Mean and median ages at diagnosis were 49.1 and 50 (range 23–75) years respectively. The mean and median serum CA 125 levels were 1423 and 544 (range 5.5–12431) ng/ml. The family history of breast/ovarian cancer was positive in 6.8% cases. In our study group, the majority of patients (74.6%) were diagnosed at stage III. The histopathological evaluation revealed large proportion of patients with high grade tumors (84.7%) and serous adenocarcinoma (69.5%) as primary histology morphology. Other than alopecia in all, 37.3% cases had experienced other toxicities due to chemotherapy. Proportion of 64.4 cases had experienced the recurrence of disease. Mean DFS and OS were 31.03 and 40.14 months.

Conclusions Ovarian cancer is the fourth commonest cancer amongst females in Indian population. Most of the cases are detected in late stages, and have high grade tumor Histopathology, with frequent relapses. Further studies are ongoing to see the HBOC subset of patients

IGCS19-0006

338 NATURAL CONCEPTION AND SUCCESSFUL LIVE BIRTH IN A WOMAN AFTER UNILATERAL OOPHORECTOMY FOR OVARIAN CANCER

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Abstract 338 Figure 1 Histological findings. "borderline mucinous ovarian tumor (C, D), accompanied with local intraepithelial carcinogenesis (A,B)". H&E, $\times 100$ (A,C)/ $\times 400$ (B,D);

Objectives Infertility is a common complaint of woman presenting with EOC (epithelial ovarian cancer) at reproductive age. Fertility sparing treatments have been successfully attempted in ovarian cancer, while limited evidence is available to testify the post-operational fertility conservation.

Methods A 21-year-old woman (gravida 0, para 0) complaining of abdominal distension, dull pain in the lower abdomen, and vomiting was hospitalized. Unilateral oophorectomy and multiple peritoneal sampling were scheduled.

Results Intra-operational frozen section analysis (FSA) showed "borderline mucinous ovarian tumor, accompanied with local intraepithelial carcinogenesis", indicating a pathological diagnosis of stage IA EOC. No courses of chemotherapy were given postoperatively, and regular follow-ups were scheduled every three months, with no positive results found. Eighteen months after the operation, the patient got natural conception and gave birth to a live term infant by natural delivery.

Conclusions Conservative surgery and close follow-ups may serve as a reasonable option for young women desiring child-bearing in the treatment of early-stage EOC.

IGCS19-0110

339 PREVALENCE AND OUTCOME OF CLEAR CELL CARCINOMA AND ENDOMETRIOID CARCINOMA OF OVARY COEXISTING WITH ENDOMETRIOSIS

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Objectives The association between endometriosis and ovarian carcinoma has been widely proposed. We retrospectively evaluated clinical manifestation, surgical outcome and complication of endometriosis-associated ovarian cancer compare to non-endometriosis-associated ovarian cancer with histologic type of clear cell carcinoma and endometrioid carcinoma.

Methods The study was conducted to review 330 patients with primary ovarian clear cell carcinoma and endometrioid carcinoma who had been initially treated at Rajavithi Hospital. The clinical backgrounds, surgical outcome and complication was reviewed.

Results 13.51% had pathological-confirmed coexisting endometriosis in clear cell carcinoma and endometrioid carcinoma. 76.57% of endometriosis-associated ovarian cancer (EAOC) presented with earlier stage (stage I-II) than non-EAOC. The higher probability of optimally surgical staging was reported in EAOC compare to non-EAOC with statistically significance (77.8% versus 54.7% respectively, $p=0.002$). Post-operative complication was also lower in EAOC ($p=0.02$). There was no difference on age, stage and surgical outcome between clear cell carcinoma and endometrioid carcinoma associated with endometriosis.

Conclusions Endometriosis-associated ovarian cancer related to early-stage disease and tend to underwent optimal surgery. The operative complication seemed to be lower in endometriosis-associated ovarian cancer.