

metastatic workup with PETCT scan, we found a multicentric residual disease in the left breast along with some ipsilateral axillary LN with significant uptake. The concurrent CECT done showed a uterine leiomyoma also. As she was strongly hormone receptor positive, had completed her family and was having menorrhagia probably attributable to uterine fibroids. She was offered hysterectomy with B/L salpingo-oophorectomy. She was keen for breast preservation but in view of her multicentricity of disease on the left breast she was counselled for mastectomy with upfront whole breast reconstruction with TRAM flap. She underwent left modified radical mastectomy with hysterectomy with BSO and TRAM flap reconstruction. The histopathological examination revealed a multicentric, multifocal ILC, grade II with heavy nodal involvement including extracapsular extension. The leiomyoma of uterus also showed tumor deposits from lobular carcinoma breast.

**Conclusion:** We report a very rare case of metastatic pattern of carcinoma of breast. On literature review we found that it is common for the lobular carcinomas of breast to metastasise to gynaecologic organs. Uterine corpus is a very rare site of metastasis for extragenital cancers including breast. All the patients of primary lobular carcinoma of breast should be screened for gynaecologic secondaries in the preoperative workup with high degree of suspicion.

## Ovary: Poster Abstract

### Granulosa cell tumour of ovary in a benign looking adnexal mass: A rare occurrence and its management

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Granulosa cell tumours are sex cord stromal tumours of the ovary which accounts for 1-2% of all ovarian malignancies. We present a case of a 22 yrs old unmarried girl with chief complaints of dysmenorrhoea for last 4 months. There were no other symptoms and her general physical examination revealed no abnormality. Ultrasonography showed a simple ovarian cyst of 7 x 8 cm in right adnexa with normal Doppler flow and no ascites. Her tumour markers were negative. Per-operative uterus and left sided ovary and upper abdomen was normal. Right ovary showed a simple unilocular cyst of around 8 x 8 cm and right ovarian cystectomy done. Surprisingly histopathological examination of cyst wall revealed granulosa cell tumour. Immunohistochemical staining was found to be positive especially with inhibin. Staging laparoscopy with peritoneal wash, multiple peritoneal biopsy with right sided salpingo-oophorectomy, left sided ovarian biopsy and dilatation and curettage was done. Cytological and histopathological examination were found to be normal. Post operatively patient received chemotherapy because cyst wall was ruptured per-operatively and patient is doing fine and disease free till now.

**Key words:** Adnexal mass; granulosa cell tumour; tumour markers

## Miscellaneous: Poster Abstract

### Development of nasal HPV vaccine formulations

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Cervical cancer is the second most cancer in women worldwide with over 500000 new cases and 275000 deaths being registered every year. With nearly 73000 women dying every year, India now tops the world in cervical cancer deaths. India represents 26.4% of all women dying of cervical cancer globally. Cervical cancer estimated to be responsible for about 5% of human cancers worldwide. Currently available vaccines may not provide complete protection against all HPV types as the protection is primarily type specific. Furthermore, the available vaccines are delivered via intramuscular route and require three doses and require cold chain supply which increases the cost of vaccine. Therefore a single dose vaccine delivered via non-invasive route (nasal) that protects against multiple HPV types would be a cost effective and better alternative to the currently available HPV vaccines. The main objective of this study was to prepare HPV antigen loaded poly (lactic-co-glycolic acid) (PLGA) and Tri Methyl Chitosan (TMC) coated PLGA microparticles and compare their efficacy as nasal vaccine. The developed formulations were characterized for size, zeta potential, entrapment efficiency, mucin adsorption ability, *in vitro* and *in vivo* studies. PLGA microparticles demonstrated negative zeta potential

whereas PLGA-TMC microparticles showed higher positive zeta potential. The protein loading efficiency was found as above 80%. Results indicated that PLGA-TMC microparticles demonstrated substantially higher mucin adsorption when compared to PLGA microparticles. HPV antigen encapsulated in PLGA-TMC particles elicited a significantly higher secretory (IgA) immune response compared to that encapsulated in PLGA particles. Present study demonstrates that PLGA-TMC microparticles with specific size range can be a better carrier adjuvant for nasal subunit vaccines. Surface modified PLGA microparticles proved great potential as a nasal delivery system for HPV infections where systemic and mucosal responses are necessary particularly in conditions after viral pathogens invade the host through the mucosal surface.

## Ovary: Poster Abstract

### Retrospective analysis of surgical outcomes and survival in women with advanced ovarian cancer undergoing interval debulking surgery

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**Introduction:** Both primary (PDS) and interval debulking surgery (IDS) have reported similar progression free survival (PFS) and overall survival (OS) rates in various studies. Complete resection of all macroscopic disease is the strongest independent variable in predicting survival in both groups.

**Objective:** To evaluate the demographics, surgical outcomes and survival in women with advanced ovarian cancer undergoing IDS.

**Methods:** All women with Stage IIIC or Stage IV epithelial ovarian or primary peritoneal cancer, registered at our institution from January 2010 to December 2010, who were treated with NACT followed by IDS, were included in the study. Demographic data, CA-125 levels (baseline and presurgery), chemotherapy and surgical details were collected. Progression free survival (PFS) and overall survival (OS) were calculated and Cox regression and Kaplan-Meier survival analysis were used to evaluate factors associated with survival.

**Results:** One hundred fifty women with Stage IIIC or Stage IV epithelial ovarian or primary peritoneal cancer were included in the analysis. The mean age was 51.08 years (27 to 73 years) and 97.3% had serous histology. Eighty percent (n = 120) had Stage IIIC and 20% (n = 30) had Stage IV disease. Ninety five percent women received Carboplatin and Paclitaxel or single agent Carboplatin as NACT and the median number of NACT cycles was 3. The median baseline CA-125 was 1649.3 U/ml (Range 16.4–235,100 U/ml) and the median CA-125 post NACT was 42.75 U/ml (Range 4.4–5151 U/ml). Seventy four percent women (n = 111) underwent an optimal cytoreduction – 62.7% (n = 94) had R0 and 11.3% (n = 17) had R1 resection. Twenty six percent women (n = 39) had R2 resection. The median CA-125 post NACT was 27.3 U/ml, 36 U/ml and 99 U/ml in women with R0, R1 and R2 resection respectively and the difference was statistically significant (p < 0.0005). The CA125 response was respectively, 97.6%, 95.7% and 93.8% in R0, R1 and R2 resection (p < 0.0005). The median follow up was 42.48 months (Range 1.48–70.93 months). The median PFS was 12.06 months (95% CI 10.02–14.1) – 12.98 months (95% CI 9.7–16.2) in R0, 9.56 months (95% CI 1.7–17.4) in R1 and 6.64 months (95% CI 4.9–8.3) in women with R2 resection (p = 0.158). The median OS was 38.9 months (95% CI 31.7–46.1) – 43.3 months (95% CI 33–53.5) in R0, 46.1 months (95% CI 26.6–65.5) in R1 and 28 months (95% CI 25–30.9) in R2 resection (p = 0.121). The median PFS and OS in women undergoing optimal cytoreduction (R0 and R1) was 12.98 months (95% CI 9.86–16.1) and 43.7 months (95% CI 34.7–52.7) respectively as compared to 6.64 months (95% CI 4.95–8.32) and 28 months (95% CI 25–30.9) respectively in women with R2 resection (PFS p = 0.064, OS p = 0.04). Multivariate analysis discussing the factors affecting the probability of optimal cytoreduction and the survival will be discussed.

**Conclusion:** In women with advanced ovarian cancer undergoing NACT followed by IDS, a high rate of optimal cytoreduction is achieved. Residual disease is a primary factor affecting the survival of these women.

## Ovary: Poster Abstract

### Primary signet ring cell mucinous carcinoma ovary: A very rare neoplasm

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