

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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Introduction: Mucinous ovarian carcinomas are less common than serous and endometrioid type, and are more frequently confined to the ovary at the time of diagnosis. But primary signet ring cell mucinous carcinomas of the ovary are extremely rare.

Case Presentation: A 40 yr old patient presented with extremely rare primary signet ring cell mucinous carcinoma of ovary. She presented with abdominal distension and frequency of urination for one month. She was evaluated and CECT whole abdomen was s/o large left ovarian mass. All the tumor markers were within normal range. Laparotomy frozen section of left adnexal mass was done and was reported as malignant with sheets of signet ring cells seen. Hence complete staging laparotomy including TAH with RSO with bilateral pelvic lymph node dissection with total omentectomy with para aortic lymph node dissection. Final histopathology with IHC markers were S/O primary signet ring cell carcinoma of ovary with no extracapsular invasion, no lymph nodal involvement & no metastatic spread.

Conclusion: We present a very rare case of primary signet ring cell of ovary, confined to ovary itself. On literature review only 14 cases have been reported and of them very few are malignant.

Missed Abstracts

Clinical presentation and management of malignant germ cell ovarian tumours in BPKMCH

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Background: Germ cell malignancies account for about 5% of all ovarian cancers. These tumours grow rapidly and often produce symptoms quicker than the slow growing epithelial tumour. Commonly seen in the first two decades of life germ cell malignancies are highly chemosensitive and are potentially curable with surgery and chemotherapy. This study is the first of its kind regarding the epidemiology, management and outcome of patients with malignant germ cell tumour in Nepal.

Objective: To analyze the clinical presentation and management outcomes of malignant germ cell tumours managed in B.P. Koirala Memorial Cancer Hospital, Nepal.

Methodology: Descriptive study conducted in B.P. Koirala Memorial Cancer Hospital, Nepal. Case records of malignant germ cell tumours attending the hospital from January 1999 to December 2009 were analyzed regarding their illness history, clinical examination, investigations, treatment, follow-up and outcomes measured.

Observations: Total 65 cases of malignant germ cell tumours with age range from 2 to 58 years (mean 21.7 years) were received. 42% cases were Tibeto-Burmese; 30% were Indo-Aryans. There were 15 cases (23%) of dysgerminoma, 21 endodermal sinus tumor (32%), 16 Immature Cystic Teratoma (24.5%), 9 (14%) Mixed Germ Cell, 2 unclassified GCT (3.5%) and 2 malignant transformation in teratoma (3.5%). 33 (49.5%) patients had early stage disease, 37 (57%) underwent fertility preserving surgery. 4 cases (9%) due to disseminated disease, underwent neoadjuvant chemotherapy followed by debulking surgery. 51 cases (78.5%) received adjuvant chemotherapy (BEP or EP regimen). The overall survival was 70%.

Conclusion: Early stage germ cell malignancies can be safely managed by fertility preserving surgery followed by, chemotherapy if indicated. For advanced diseases, neoadjuvant chemotherapy followed by surgery can be undertaken with curable intent.

Cervix: Poster Abstract

Clinicopathological correlates and need for adjuvant radiotherapy in early stage carcinoma cervix

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Objective: To analyse clinical-pathological findings in women undergoing surgery for early stage carcinoma cervix and to determine the need for adjuvant radiotherapy.

Methods: The study was a retrospective one done to analyse data of women who had been operated for carcinoma cervix in the last 10 years at a tertiary hospital in Delhi. Type II/III radical hysterectomy with pelvic lymphadenectomy was done depending on stage. Histopathological findings and need for adjuvant therapy based on presence of clinical and pathological criteria were studied.

Results: A total of 93 eligible patient records were included in the study. Mean age and parity was 48.09 ± 22.36 years and 4.29 ± 3.9 respectively. 47.31% (44) of the women had stage 1B1 carcinoma cervix; 31.18% (29) had stage 1B2 and 19.35% (18) had stage 2A disease. Average size of the tumour growth was 3.25 ± 2.46 cm with the largest being 7 cm. Keratinising squamous cell carcinoma was seen in 48.38% (45) of patients whereas the non-keratinising one was seen in 33.33% (31). Large cell variant was seen in 6.45% (6) whereas micro invasive cancer was seen in 4 women. Adenocarcinoma constituted only 3.2% (3) of the study group. Vaginal cuff involvement was present in 9.67% (9) of patients and an equal number had occult parametrial invasion. A significant number of these had stage 2A disease (16.66% and 22.22% respectively). Between 1B1 and 1B2 there was no significant difference in the incidence of vaginal cuff involvement and occult parametrial invasion (P equals to 0.206 and 1 respectively). Lymph nodes were positive in 24.73% with the obturator lymph node being the commonest involved (17). In stage 1b1 25% (11) had positive lymph nodes; in stage 1B2 34.48% (10) and in 2A only one woman had positive pelvic lymph nodes. This difference was also not significant (P = 0.434). About 50% (47) of patients were referred for adjuvant radiotherapy on the basis of the pathological findings. 61% (11) of patients with stage 2A disease, 51.7% (15) of patients with stage 1b2 and 45.45% (20) with stage 1B1 disease required adjuvant radiotherapy.

Conclusion: There was no significant difference in the pathological findings in patients of 1B1 and 1B2. Also the need for radiotherapy in both the groups was similar. Hence similar surgical approach to women with both 1B1 and 1B2 disease appears appropriate.

Cervix: Poster Abstract

Cervical cancer management in Rural India: Are we really living in 21st century or need to focus on health education of our doctors

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Objectives: To study cases of cervical cancer managed/unmanaged in rural India and to analyze the reasons for poor outcome.

Methods: This is a retrospective study of 218 cases of cervical cancers between 2008-2013 with resultant outcome in terms of treatment or absence of treatment in spite of diagnosis. Reasons for not taking the treatment have been analyzed. Also, analysis of 21 cases of simple hysterectomy with resultant complications like VVF, RVF has been done. Indications of surgery, operating surgeon, availability of preoperative/postoperative HPR, slides/blocks, discharge summary and disease status at the time of referral was done.

Results: 44% refused to take treatment in spite of stage III diagnosis citing financial constraints, distance to be traveled daily for RT and apathetic attitude of family towards females. 20.65% opted for other hospitals. 29.8% took complete treatment. 80% of females were illiterate and dependent. 9.7% had simple hysterectomy for invasive disease. 95% of simple hysterectomies were performed by general surgeons in private setups resulting in 19% of complications like VVF, RVF. 100% cases of simple Hysterectomy did not have pre-operative biopsy. Only 50% cases had post-operative biopsy report and in none of the cases were slide/blocks available for review as trained pathologists were not available. General surgeons who had performed surgery were neither trained in doing P/V examinations nor aware of staging of cervical cancer.

Conclusion: Illiteracy, poverty and absence of implementation of cancer control programs are the major hurdles in control of cervical cancer. The study highlights the absence of Government's will to control cervical cancer in rural India. It emphasizes on the need of intensive training and health education of gynaecologists and surgeons at district/rural level, lack of which is a primary factor for violation of medical ethics by the doctors.