stage of carcinoma cervix both radiation and radical hysterectomy given equivalent local control rates as well as survival. Poor prognostic factors following surgery would necessitate-post-operative adjuvant radiation. Selecting the patients who is unlikely to require adjuvant treatment after surgery spares them the toxicity of multiple treatment modalities, which is worse than alone.

Aim: To find out clinico-pathological correlation in early stage carcinoma cervix treated with the surgery.

Materials and Methods: It is a retrospective audit of study. All carcinoma cervix cases primarily treated with surgery.

Results: A total of 25 cases were treated in this study. The median age of patients observed with 48 years. The common symptoms and stage were vaginal discharge (i.e., 42.30%) and 1B1 (61.53%). Most of patients were treated with type III radical hysterectomy and their clinical staging was correlated with the final histo-pathological staging. A total of 11 (i.e., 42.30%) required adjuvant treatment among them 7 (63.633%), 1 (9.09%) and 3 (27.27%) patients were in 1B1 1B2 and 2A respectively. The chi-square test has been performed to compute the correlation between clinical and histo-pathological finding. It shows that significant amount of relation present between clinical and histo-pathological findings.

Cervix: Oral Abstract

Nation wide urgent need for colposcopy services: Cancer hospital based study

Vibha Gahlot, Ranjit Kumar

Mahavir Cancer Institute and Research Centre, Patna, Bihar, India

The cancer cervix is the second most common cancer among women worldwide. About 86% of the cases occur in developing countries and this is responsible for 88% of total deaths. In India 132,000 new cases are diagnosed each year with this disease and 74,000 deaths are recorded annually which accounts for the 1/3rd of the global deaths from cervical cancer. This hospital based study is designed to look at the distribution of the disease in patients coming to the Mahavir Cancer Sansthan with the aim to achieve an early diagnosis and treatment and recognition of disease in its preinvasive state for better outcome and quality of life. The patient registry data in Mahavir Cancer Sansthan showed that the total number of patients from all cancer were 20,746 in year 2013-2014. The cervical cancer constituted 14% of the patients. 50% of the patients belong to the six district of Bihar which falls in Gangetic plain. 700 case notes have been reviewed for clinical staging at the time of the diagnosis. 71% of the patients were in stage 2b at the time of first clinical presentation, 24% in stage 3% and 4% were in stage 4. Only 1% patients were found in stage1. The colposcopy clinic data suggest only 0.04% patients have approached to us at preinvasive stage. We conclude from this study that although this hospital is mainly a referral cancer hospital 99% patient have reported to the hospital at stage 2b and beyond. Given the natural History of cervical cancer this is only the tip of iceberg. A robust system for colposcopy services needed to diagnose this disease at its preinvasive and micro invasive stage to reduce the morbidity and mortality and improvement in the quality of the life of the patients.

Key words: Cervical cancer; colposcopy; gangetic belt; preinvasive

Cervix: Oral Abstract

Comparative evaluation of concomitant chemoradiation with weekly cisplatin and gemcitabine versus weekly cisplatin in the management of locally advanced carcinoma of uterine cervix

Vikas Gupta, Ashok Kumar Chauhan, Paramjeet Kaur, Anil Khurana, Yashpal Verma, Nupur Bansal

Department of Radiotherapy, Regional Cancer Centre, Post Graduate Institute of Medical Sciences, Rohtak, Haryana, India

Aim: To evaluate feasibility of concomitant chemoradiation with weekly cisplatin and gemcitabine, and comparing the advantage of using this regimen over cisplatin alone in terms of disease control and toxicities in management of locally advanced carcinoma cervix.

Materials and Methods: The study has been conducted on fifty previously untreated, histopathologically proven FIGO stage II B - IV A patients of carcinoma cervix, attending the Department of Radiotherapy, Post Graduate Institute of Medical Sciences, Rohtak for definitive treatment by radiation therapy. The patients were divided randomly in two groups of 25 patients each. Group I received cisplatin 40 mg/m^2 and gemcitabine 125 mg/m^2 with concomitant external beam radiotherapy 50 Gy/25 fractions/5 weeks, followed by intracavitary high dose rate brachytherapy 7 Gy to point A, for 3 times, once in a week. Group II received concomitant chemotherapy with cisplatin 40 mg/m^2 weekly alone while radiotherapy schedule were same as in group I.

Results: Total treatment duration in group I and II were 9-11 and 8-10 weeks respectively. Complete response rate in group I and II were 92% and 80%. Grade III skin and mucosal reactions was 20% in group I and none in group II. Diarrhoea was 24% in group I & 8% in group II. Grade II & III leucopenia was seen in 28% and 4% cases of group I & group II respectively. Upper gastrointestinal and renal toxicities were comparable in both arms. After six month of follow up, no evidence of disease was seen in 92% and 80% cases of group I and group II.

Conclusion: If the toxicity is managed adequately in platinum based doublet group, it may produce improvement in response. Study is ongoing.

Cervix: Oral Abstract

Over view of clinical presentation, management and outcome of cervical cancer: A tertiary cancer centre experience

H. Shukla, K. Batra, R. Sekhon, S. Giri, S. Rawal

Deparament of Surgical Oncology, Rajiv Gandhi Cancer Institute, New Delhi

Objectives: (a) To understand the profile of cervical cancer patients attending our hospital from January 2011 till January 2015. (b) To audit the type of care given to the patients with respect to their stage at presentation. (c) To compare the outcomes of open v/s robotic radical hysterectomy done for cervical cancer.

Methods: We prospectively analyzed all cases of cervical cancer from January 2011 to January 2015 presenting at our institute. Data was retrieved from patient's records and institute's tumor registry. We compared all patients undergoing open v/s robotic RH. All the data were analysed using SPSS version 21.

Results: A total of 562 patients were treated for cervical cancer during the time period between 2011-2015. Of these there were 316 (56%) cases taken up for surgery-212 robotic RH, 104 open radical hysterectomy and rest 246 (44%) patients received definitive CCRT. Most common age group was 40-54 yrs. IB1 stage was most common presenting stage. SCC was most common histology (75%). Immediate post op complication and oncological safety in terms of local recurrence was same in both groups. However length of stay and post operative blood requirement was significantly lower in robotic RH group. 45% of all patients who underwent surgery did not require adjuvant therapy in post op period while 35% patient required post op RT and 20% CCRT. 2.2% patient had local recurrence and most of the patients were in stage IIA1 at presentation.

Conclusion: Cervical cancer is the most common gynecological cancer in our hospital registry. Mostly women were in the age group of 40-54 years. Most common stage at presentation was 1B and the histology being SCC. Not many differences seen in open v/s robotic techniques of radical hysterectomy except for shorter hospital stay and less need of blood transfusion in the robotic group. Local recurrence rates are comparable in both open and robotic groups.

Key words: Robotic radical hysterectomy; open radical hysterectomy; cervical cancer

Cervix: Oral Abstract

Sample survey of cancer awareness in health care workers

Lalita, Saritha Shamsunder, Kavita Agarwal, Archana Mishra, Sunita Malik

Department of Obstetrics and Gynecology, Vardhmaan Mahaveer Medical College and Safdarjung Hospital, New Delhi, India

Objective: To see the awareness about cancer in women among ASHA workers.

Place of Study: Awareness Sessions at Safdarjung Hospital, New Delhi.

Background: ASHA workers are the first point of contact for women in the community & bridge the back between the hospital and women. They have been instrumental in the success of the family planning programme & polio eradication program in India.

Materials and Methods: A questionnaire about educational status, awareness about breast & cervical cancer statistics, methods of screening and diagnosis was distributed to Accredited Social Health Activists appointed by the government at two educational sessions organized at Safdarjung hospital.

Results: Of the 200 ASHA workers attending, 188 completed the questionnaire. Their educational status ranged from 7th standard to post-graduate, majority had studied up to 10th standard. Their sources of information were mostly television and mobile phones, 23% had knowledge about internet, 36% were using Whats app. Only 28% knew about the commonest cancer in Indian women. Regarding breast cancer, 63% were aware of self examination of breasts, 41% knew the frequency of self examination; awareness about symptoms of breast cancer was prevalent in 46%, 24% knew about risk factors of breast cancer. Regarding Cervical Cancer, 28% knew about risk factors, 22% knew about symptoms of cervical cancer; 19% knew about screening methods for cervical cancer, 9.5% knew the screening intervals.

Conclusion: Health education about cancer prevention should start at the primary school level. Special educational & motivational sessions for ASHA workers could help in cancer prevention programs.

Cervix: Oral Abstract

Evaluation of biomarkers p16^{ink4a}/ki-67 in cervical cytology for diagnosis of cervical intraepithelial neoplasia

P. K. Sathija, S. Rajaram, V. K. Arora, B. Gupta, N. Goel[1]

Departments of Obstetrics and Gynecology and [1]Pathology, UCMS and GTB Hospital, New Delhi, India

Background: Novel biomarkers, P16^{INK4a}/Ki-67 are disease specific and identify risk of progression to cervical cancer.

Aim: To test the clinical utility of biomarkers p16^{INK4a}/Ki-67 in cervical intraepithelial neoplasia.

Methodology: Experimental study was conducted over an 18 month period at a tertiary care hospital. 3500 sexually active women between 30-55 years were screened by VIA/VILI, Pap test & HPV-DNA PCR. All screen positive women (n=280) underwent colposcopy and biopsy if required. At the time of colposcopy repeat cervical smear were taken for evaluation of p16^{INK4a}/Ki-67. Immunocytochemistry for p16^{INK4A} and Ki-67 was done by partitioning one slide into two parts for each biomarker. For p16^{INK4A} positivity, nuclear +/- cytoplasmic scoring and intensity score was calculated and final score obtained. For Ki-67 staining was exclusively nuclear. Staining patterns were categorized as negative, intermediate or strongly positive.

Results: 86 women with abnormal cytology were evaluated with p16^{INK4A}/Ki-67 immunocytochemistry and 20.9% (n=18) and 18.6% (n=16) were positive for each biomarker. For ASCUS (n=42) and LSIL (n=23) smears, specificity and NPV were 100% with a likelihood ratio (LR+) of 27 and 25 respectively suggesting good diagnostic accuracy. The combined sensitivity and specificity of p16^{INK4A}/Ki-67 in detecting CIN-2+ lesion was 76.9% and 95.8% respectively with LR+ of 18.72 in high grade smears.

Conclusions: p16^{INK4A}/Ki-67 evaluation in cervical cytology are valuable biomarkers in ruling out or detecting CIN2+ in ASCUS and LSIL smears. Unnecessary intervention in large number of low grade smears can be avoided by applying these biomarkers. In high grade smears detection rate of biomarkers p16^{INK4A}/Ki-67 was high and had a good diagnostic accuracy.

Cervix: Oral Abstract

IMRT in carcinoma cervix: Maximizing the gain and nipping the side effects: RGCI experience

Objective: To present a single institutional experience with acute toxicity, patterns of failure and survival in carcinoma cervix treated using definitive radiotherapy with IMRT technique.

Methods: It is a retrospective analysis of 64 patients with carcinoma cervix treated with definitive chemoradiation (IMRT) from April 2011 to Jan 2013. Patients with squamous or adenocarcinoma histology and no metastasis, treated with definitive radiotherapy (IMRT) with or without concurrent chemotherapy were included. Acute toxicities were presented as proportions and kaplainmeier computation was done to calculate 3 years disease free survival (DFS) and 3 years overall survival (OS).

Results: Median follow up was months for the entire cohort. Mean age was 55.9 years (SD 9.93). Majority of patients (92.8%) had locally advanced disease (FIGO II and III) and squamous cell carcinoma (96.9%). Mean dose to pelvis with IMRT was 49.75 Gy (SD 1.78) followed by ICRT, EBRT boost and implant in 79.7%, 17.2% and 3.1% respectively (as indicated). Response evaluation done at 3 months of treatment completion showed 83.6% complete response, 11.5% partial response and 4.9% progressive disease. During follow up 21.6% developed recurrence - 44.4% failed locally, 16.7% at para-aortic nodal region and 38.9% at distant sites. The 3 year DFS and OS was 70.8% and 60.3% respectively. Patients had tolerable acute toxicities. Incidences of grade ≥3 acute toxicity were 3.1% for anemia, 10.9% for neutropenia, 25% for thrombocytopenia, 1.5% for nausea, 0% for vomiting, 12% for GU and 12% for GI toxicities. Incidence of grade I, II and III radiation dermatitis were 38.89%, 27.78% and 22.2% respectively. None developed grade IV radiation dermatitis.

Conclusion: IMRT for carcinoma cervix seems to provide improved outcomes and toxicity profile, although it should be compared with conventional radiotherapy in a well randomized control setting so as to have true and meaningful comparison.

Cervix: Poster Abstract

Comparison between cystoscopy and CT scan findings of bladder involvement in carcinoma cervix in view of revised FIGO staging

Department of Urology, GMC, Patiala, Punjab, India

Aim: To compare the findings of CT scan pelvis and cystoscopy findings of bladder involvement in carcinoma cervix in VIEW of revised FIGO staging and to demonstrate the accuracy of CT scan for pretreatment diagnosis of bladder involvement.

Methods: A prospective and comparative study was conducted in the department of Obstetrics and Gynaecology, Rajindra hospital Patiala on a number of 100 patients of carcinoma cervix who underwent both cystoscopy and CT scan pelvis to ascertain bladder involvement. Cystoscopy guided biopsy proven cases of bladder involvement were taken as true cases of bladder involvement in the study and the results of both modalities were analysed and compared.

Results: Out of 100 patients of carcinoma cervix, 28 patients showed bladder involvement on CT scan pelvis and 6 patients were proven as positive cases on cystoscopic guided bladder biopsy. The true positives in the study were 6 cases. True negatives were 94 cases. 22 patients were false positive on CT scan findings and there were no false negative patients for bladder involvement on CT scan pelvis findings in the study. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy of CT scan pelvis for bladder involvement were 100%, 76.60%, 21.43%, 100% and 78% respectively. CT scan pelvis was able to detect all cases of bladder involvement which came positive cystoscopy guided biopsy as well.

Conclusions: With the revised FIGO staging which has given optional status to both CT scan and cystoscopy for bladder involvement in patients of carcinoma cervix, CT scan can be used as the preliminary modality for detective bladder involvement in patients of carcinoma cervix. The high sensitivity and negative predictive value of CT scan helps choose which patients should undergo cystoscopy and helps in better and more efficient pre-treatment evaluation of patients with carcinoma cervix for bladder involvement.

Cervix: Oral Abstract

Association of TNF-α rs-281865419 polymorphism with reproductive tract infections in Indian population

Vineeta Sharma[1,2], Pallavi Singhal[1], Anoop Kumar[1], V. G. Ramachandran[2], Shukla Das[2], Mausumi Bharadwaj[1]