Tomotherapy treatments. Median age of these patients was 60.6 yrs (21.6–88.5). Median follow up was 15.7 mts (0.4–58). They were 20 cervical, 10 endometrial, 4 vaginal, 1 vulvar and 5 ovarian cancer. Four pts presented stage I, 9 stage II, 8 stage III, 2 stage IV, 1 NA and 16 relapsing tumors. Fourteen patients had a previous surgery. PET/CT simulation was always performed to include pelvic or lombo-aortic N+ and tumor localizations in SIB. Fifteen patients were treated without SIB, with doses ranging from 45Gy to 65Gy/33 fr. Twenty five patients, who could not undergo BT or who had positive lymph nodes at FDG PET/CT, were treated with 45-50.4 Gy to pelvic/lombo-aortic lymph-nodes and a SIB on PET positive lymph-nodes or central tumor. The median dose prescribed was 60 Gy (45-66.25) in a median number of 28 fr (6-33). Some of the cervical cancer patients also received concomitant chemotherapy.

Results: RTGOG acute toxicity was as follows: GE: (diarrhea, nausea, vomiting): G1 = 9, G2 = 14, G3 = 3; GI: (bleeding, tenesmus): G1 = 1, G2 = 2; GU: G1 = 7, G2 = 6; hematoctit (neutropenia): G1 = 1, G2 = 1, G3 = 1; dermatitis: G1 = 3, G2 = 9, asthenia G1 = 3. RTGOG/ORTC late toxicity was: GE: G1 = 3, G2 = 1; GI: G3 = 1; GU: G1 = 2, G2 = 2; radiation dermatitis: G1 = 1. One patient presented vaginal sthenosis after exclusive HT treatment to 66.25Gy. Twenty CR, 9 PR, 2 SD and 2 PD were registered. Seven patients presented distant progressive disease after local CR (5) or PR (2) at the first evaluation. The 2 SD and 2 PR were registered. Seven patients presented distant progressive disease.

Conclusions: The toxicity and local control results were good in this group of patients, demonstrating that, when necessary, brachytherapy could be replaced, and PET positive lymph nodes controlled, with the PET/CTsimilation was always performed to include pelvic or lombo-aortic lymph-nodes and a SIB on PET positive lymph-nodes or central tumor. The median dose prescribed was 60 Gy (45-66.25) in a median number of 28 fr (6-33). Some of the cervical cancer patients also received concomitant chemotherapy.

Purpose/Objective: Hypofractionated treatment with intensity modulated radiotherapy (IMRT), arc therapy, stereotactic body radiotherapy (SBRT) and Cyberknife is a valid conservative alternative in exclusive or recurrent gynaecological cancer when brachytherapy is not feasible.

Materials and Methods: In our ‘Advanced Radiotherapy Center’ the majority of patients (pts) affected by gynaecological cancer were treated with conventional or hypofractionated radiotherapy stereotaxy/boost. From June 2010 to October 2012 186 gynaecological pts (90 exclusive cervical cancer) were treated. When brachytherapy was not feasible, hypofractionated schedule with external beams is a very good solution (virtual brachytherapy). The introduction of new technologies such as IMRT, Rapid-arc therapy, SBRT, Cyberknife and the application of Image guidance and adaptive planning techniques makes easier to spare critical organs at risk (OAR) in order to minimize late toxicity, that is a concern because of the closeness among OAR and target. In order to compare different fractionation schedules, 46 equivalent total doses (EQD2) were calculated using the linear quadratic model with α/β ratios of 3 Gy for late normal tissue effects and 10 Gy for the tumor.

Results: All patients but five received Rapid arc radiotherapy with simultaneous integrated boost (SIB): 45-50.4 Gy (1.8 Gy/fraction fr) were prescribed to the T or T-bed, N0 pelvic and/or para-aortic lymph nodes and 55 Gy (2.2 Gy/fraction) to the positive lymph nodes. The dose for the hypofractionated boost schedule was 5 Gy/fr for 3 fr = 15 Gy, EQD2=25 Gy (PTV 65%), 5 Gy/fr for 5 fr = 25 Gy, EQD2=25 Gy (PTV 65%), 5 Gy/fr for 7 fr = 35 Gy, EQD2=35 Gy (PTV 65%). For the pts who received the hypofractionated treatment alone the doses for IMRT or SBRT was: 6 Gy/fr x 5 fr = 30 Gy (isodose 95%)= EQD2=30 Gy, 5 Gy/fr x 5 fr = 25 Gy (isodose 95%)= EQD2=30 Gy.

Conclusions: The possibility to hypofractionate the treatment offers a new approach for a minimally invasive treatment in the management of cancer when current surgical approach and other radiotherapy techniques are unsuitable.

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Impact of various treatment modalities for carcinoma cervix on sexual function assessed using the LENT SOMA scales.

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Purpose/Objective: To assess the outcome and quality of life of patients of carcinoma cervix treated with multimodality therapy using the LENT SOMA scales.

Materials and Methods: The study was prospective and patients who were treated in CMC, Ludhiana between 1st January 1995 to 31st December 2007 and coming for follow up were included in this study after ethical clearance. A total of 85 patients were accrued comprising 6 stage IB, 6 stage II A, 25 stage II B, 2 stage IIIA, 45 stage III B and 1 stage IV A disease. Sixty six patients were treated with radiotherapy in which 45 patients received chemotherapy with radiotherapy and 19 had had surgery prior to post-operative radiotherapy. The mean age was 47.81 years with a range of 25-68 years. Radiotherapy was given according to the Manchester school. Completion of LENT SOMA scale vagina sub-section (including sexual dysfunction) was done and Statistical analysis was done.

Results: Completion of questionnaires: From a consecutive series of 92 patients, 7 patients data were not adequate. Three patients were reported to have recurrence either local or metastatic. Initial data were obtained for 85 women.

Treatment data: Pre-radiotherapy LENT subjective scores for the vagina and sexual dysfunction scales were not obtained. There was a significant relationship between the average baseline scores and patient age (P = 0.037) for the vagina scale score and also for sexual dysfunction (P = 0.038). There was a significant relationship between the maximum vagina scores at baseline and age (P = 0.039), but not for stage of disease (P = 0.077). For sexual dysfunction maximum scores there was no significant association with age (P...
Gas rectal pockets are related with higher rectal doses during vaginal cuff brachytherapy

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Purpose/Objective: Rectal volume change is a proved source of variation during external beam radiotherapy. Vaginal cuff brachytherapy is one of the most widely and settle brachytherapy procedures worldwide. Some groups advocate aprevious rectum cleansing, although no studies exist analysing the consequences of rectal distention during vaginal cuff brachytherapy. The aim of our study was to define how the type of rectal content affects its dosimetric values.

Materials and Methods: CT sets (337) derived from 92 patients treated with vaginal cuff brachytherapy were re-segmented and re-planned for study purpose under the same parameters. Rectum DVH values were extracted and parametric and non-parametric analysis was carried out according to the rectal content. Tukey HSD test was used for post-hoc comparisons.

Results: Kruskal-Wallis (D2cc, D10cc) and ANOVA (Dmax, D0.1cc, D2cc) tests showed significant differences among empty rectums, rectums with feces, and rectums with gas pockets (all p<0.0001).

Conclusions: Gas pockets are a source of rectal dose increase during vaginal cuff brachytherapy. Maneuvers addressed to reduce it, like rectal tubes or rectum cleansing, could diminish rectal doses and secondary toxicity. Avoiding contrast rectal enemas that increase variation during external beam radiotherapy. Vaginal cuff procedures worldwide. Some groups advocate aprevious rectum cleansing, although no studies exist analysing the consequences of rectal distention during vaginal cuff brachytherapy. The aim of our study was to define how the type of rectal content affects its dosimetric values.

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