

Material and Methods: A retrospective analysis of 277 patients treated between January 2007 and November 2007. Of the 277 patients, 36.06% treated with palliative intent and 63.95% with radical intent.

Results: 85% of patients interrupted their treatment at least once, 62% twice and 20.58% four times. 87.5% stopped for 1–2 days, only a patient stopped for 9 days by acute toxicity. Public holidays were the main cause of stops (52.2%), machine breakdown supposed 33.5%, unknown reasons 9.5% and acute toxicities less than 5%. In the most part of treatment reviewed, interruptions was compensated by adding extra fractions what supposed to prolong OTT. In patients with head and neck squamous cell carcinoma the prolongation of the overall time supposed to reduce TCP on 10.5%.

Conclusions: Prolongation of the overall time has an important impact in terms of local tumour control. We don't recommend additional fractions as standard. We suggest as compensatory measures: to transfer the patient to another machine, twice daily fraction (minimum 6 h interval), weekend treatment, to use biologically equivalent dose (BED) and foresee potential interruption before to prescribe the treatment.

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POSTER

Audit of management of metastatic spinal cord compression

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Background: Metastatic Spinal Cord Compression (MSCC) is an oncological emergency with devastating outcomes. The ability to walk at presentation and prompt treatment predicts eventual outcomes. Here we present an audit of management of MSCC in our network.

Material and Methods: Our population was all patients with suspected MSCC in 3 hospitals from May to November 2007. Our audit standards were set out by our hospital's MSCC working group members using a combination of published evidence and best practice.

Results: The number of patients with suspected MSCC was 98 and 49% of these had confirmed cord compression. 35% had previously known spinal metastases. Pain was reported in 90% cases. Weakness was reported in 70%. 41% were walking with assistance. An MRI was performed in 99% of patients; the majority (71%) within 24 hours (range 1–113 days). The use of steroids was documented in 77%. For confirmed MSCC 71% had radiotherapy, 23% surgery and 12% best supportive care. 3 patients had both surgery and radiotherapy. Only decompression surgery was performed and none had stabilisation. Median time to surgery was 7 days and 1 day for radiotherapy. Most patients received a single fraction of radiotherapy (46%) (range 4–15 fractions). Of patients treated with radiotherapy the pre and post treatment percentages for independent walking, walking with assistance and not walking were 25% and 7%, 36% and 50%, and 21% and 18% respectively. For surgery these figures were 18% and 0% for independent walking, but for walking with assistance and not walking, these remained the same pre and post treatment at 36% and 18% respectively.

Conclusion: MSCC frequently presents outside tertiary care. This can lead to subsequent delays in investigation, diagnosis and treatment. Mobility and function is dependant on the initial function and the appropriate treatment. Early surgery followed by radiotherapy in suitable patients gives the best outcome. Only 44% of our patients were referred for surgery. None of our patients received optimum surgery. Overall we only managed to achieve compliance in 2 out of our 9 standards. There were delays in MRI scanning and a delay to surgery. Documentation was poor, especially regarding functional status pre and post treatment, and steroid use. At our hospital we have developed and published guidelines for the management of MSCC. These provide a step-wise, multidisciplinary, evidence based approach to managing this condition. We will re-audit our performance 12 months post introduction of the guidelines.

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POSTER

Adjuvant radiotherapy of endometrial carcinoma – 6-field vs. 4-field acute toxicity

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Background and Purpose: To compare the additive benefit of the 6 field planning technique over the 4 field box technique in the postoperative radiotherapy of patients with endometrial carcinoma. The examined parameters were the following: dose delivery of the target, organs at risk (OARs) and the rate of acute side effects.

Material and Methods: Between 2006 and 2008, 40 patients (pts) with I-III stage endometrial carcinoma received surgery and postoperative radiation therapy. 13 pts received 3D conformal external beam radiotherapy (3D EBRT) alone, while 27 pts were treated with combined irradiation (3D EBRT

+vaginal brachytherapy). The prescribed dose of EBRT was 50.4 Gy in 28 fractions.

20 pts were planned using the 4-field box technique, while in the other half of the pts the 6-field beam arrangement was used. The defined OARs were the urinary bladder, rectum, bowels and femoral heads. We recorded and classified the acute side effects according to the CTCAE version 3. scoring system.

Results: Acute side effects were noted in 77.5% of the cases. In the 4-field group, the observed acute gastrointestinal (GI) and genitourinary (GU) toxicity were the following: GI Gr. 0–1: 19 pts (Gr. 1:10), Gr.2: 1 pts; GU Gr. 0–1: 17 pts, Gr. 2: 3 pts. In the 6-field group, the toxicity rate was quite similar: GI Gr. 0–1: 19 pts (Gr.1:7), Gr. 2: 1 pts; GU Gr. 0–1: 17 pts, Gr. 2: 3 pts. No Grade 3 or worse acute side effects were observed in either group.

Conclusion: Based on our experiences the routine use of the 6-field planning technique in adjuvant radiotherapy setting may not have a significant advantage over the conventional 4-field box technique in terms of acute toxicity in patients with endometrial carcinoma. Inclusion of a higher number of patients is planned in the near future.

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POSTER

CyberKnife radiosurgery for metastatic spine tumours: clinical experience in 231 cases

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Background: The authors conducted a retrospective study for preliminary analysis of the results from CyberKnife radiosurgery for metastatic spine tumours.

Material and Methods: The authors analyzed the treatment records of 231 cases of CyberKnife radiosurgery for metastatic spine tumours between December 10, 2007 to December 10, 2008 in Seoul Wooidul Hospital (Seoul, Korea). The total number of patients was 115 (55 males and 60 females) and their mean age was 59 years (range, 25–79 years). Cases of primary tumours consisted of 36 breast cancer, 26 lung cancer, 16 hepatoma, 8 renal cancer, 6 prostatic cancer, 5 colon cancer, 5 sarcoma, 4 stomach cancer, 4 rectal cancer, and 5 unknown primary cancer patients. They received single or fractionated radiotherapy 3 times on average (range, 1–5 times) and the marginal tumour dose ranged from 800 cGy to 4000 cGy (mean, 2000 cGy), which was delivered at mean 80% (range, 70–90%) of marginal tumor isodose line. The irradiated tumors volume was 0.46 cc–428.5 cc (mean, value 13.07 cc).

Results: The follow-up results for 231 cases were analyzed. The mean Visual Analogue Scale was 4.5 before treatment, which improved to 3.3 after treatment. The mean Oswestry Disability Index decreased from 26.5% before treatment to 23.4% after treatment. The 98 patients were evaluated in the follow up PET-CT study, in which there was overall 85% CR change in cyberKnife treatment. For complications, five patients experienced temporary nausea and three patients were attacked by radiation pneumonitis, but fully cured by appropriate symptomatic therapy and steroid therapy. No patient experienced radiation myelitis.

Conclusions: This study found that CyberKnife radiosurgery for metastatic spine tumours can relieve the pain of the patients by non-invasive method and effectively manage spinal disability. According to the results of this follow up study, PET-CT had a significant impact on cyberKnife treatment.

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POSTER

Treatment planning comparison of tangential coplanar beams versus non-coplanar beams in whole breast irradiation

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Background: To evaluate dose homogeneity, target coverage, organs at risk irradiation by comparing two irradiation techniques for whole breast irradiation: tangential wedged coplanar beams versus tangential wedged non-coplanar beams.

Materials and Methods: We selected 4 patients with breast cancer who had to undergo to only whole breast irradiation, after quadrantectomy, without nodes irradiation, with relatively large breast volume. For each patient, two treatment plans were created and compared, using Varian Eclipse 6.5 planning system: a 3D two-field tangential coplanar treatment (CT) and a 3D two-field tangential non-coplanar treatment (NCT, rotated couch in the range 14–20 degrees), both wedged, with collimator rotation