EP-1113
Prospective evaluation of factors associated with weight loss in patients undergoing radiotherapy
J. Cacedo1, F. Casquero2, O. del Hoyo1, A. Gomez de Urrutia1, E. Boveda1, L. Martinez-Indart1, P. Bilbao1
1Crues University Hospital, Radiation Oncology, Barakaldo, Spain
2Crues University Hospital, Clinical Epidemiology, Barakaldo, Spain

Purpose/Objective: To identify which factors influence weight loss in patients undergoing radiotherapy.

Materials and Methods: 74 patients were evaluated prospectively. Weight loss during radiotherapy and one month after treatment were analyzed. Parameters such as tumor stage, age, chemotherapy, tumor site, Eastern Cooperative Oncology Group score (ECOG) were evaluated to analyze their influence in weight loss. All patients received supportive care with oral nutritional supplementation (ONS) and dietetic counseling.

Results: There were 65 (87.8 %) men and 15 (20.2 %) female. Mean age was 62.5 years (range 39-85). Weight loss was evaluated weekly during radiotherapy and one month after treatment. A total of 46 (65.7%) patients lost weight throughout radiotherapy, with a median weight loss during treatment of 4.73 kg (SD±3.91) which corresponds to a 6.55% (SD±4.84) net reduction from their baseline weight. One month after treatment, 45 (66.2%) patients had lost weight, with a median weight loss of 4.96 kg (SD±4.04), which corresponds to a 6.84% (SD±5.24) net reduction from their baseline weight. A total of 52 patients (70.2 %) received chemotherapy. Median weight loss during treatment was 3.1 kg (SD±4.90) and 0.6 kg (SD±3.49) respectively, for patients receiving chemotherapy and patients who did not (p = 0.068). Head and neck (HN) patients had a median weight loss of 3.3 kg, and those with breast cancer had a weight loss of 4.6 kg (p=0.028).

Conclusions: Nutritional status and clinical parameters such as tumor location (especially HN), chemotherapy and ECOG should be evaluated prior to radiation therapy because these factors can influence weight loss during radiotherapy and also one month after treatment. Despite using ONS and dietary counseling patients lost weight during treatment. These findings further support the importance of weight control in patients undergoing radiotherapy. Future research evaluating the most effective nutritional intervention to prevent weight loss will help optimizing the management of these patients.

EP-1114
Image guided stereotactic re-irradiation for isolated local recurrent primary prostate cancer
A. Cecconi1, B.A. Jereczek-Fossa2, D. Derizi1, S. Comi2, C. Garibaldi2, E. Rondi2, C. Fodor1, O. De Cobelli3, R. Orecchia1
1European Institute of Oncology, Divisione Di Radiotherapia, Milano, Italy
2European Institute of Oncology, Fisica medica, Milano, Italy
3European Institute of Oncology, Divisione Urologia, Milano, Italy

Purpose/Objective: To evaluate the outcome of stereotactic re-irradiation (SR-RT) for isolated local recurrent primary prostate cancer after external beam radiotherapy.

Materials and Methods: Our experience started between May 2007 and December 2009, in collaboration with CyberKnife Center CDI, Milan. 19 patients with prostate or prostate bed recurrence in 15 and 4 pts, respectively) were treated with CyberKnife (Accuracy, Sunnyvale, CA)-based stereotactic radiotherapy (CBK-SRT), and these data have been recently published (B.A. Jereczek-Fossa Int. J. Radi. Oncol. Biol. Phys. Vol. 82, No. 2, pp. 889-897,2012). In all these patients, [Ni]choline positron emission tomography/computed tomography (PET/CT) was performed. The median CBK-SRT dose was 30 Gy in 5 fractions. Progression free survival rate at 30 months was 25%. These promising preliminary results prompted us to continue the study at our Institution when, at the end of 2011, Advanced Radiotherapy Center ARC started. New machines dedicated to stereotactic radiotherapy and hypofractionated protocols have been implemented (CyberKnife and Vero).

Results: Between March and September 2012 4 patients with locally recurrent prostate cancer have been treated with image guided SR-RT. In all pts PET/CT and biopsy was performed before treatment. The total dose was 30 Gy in 5 fractions. Up till now, SR-RT was well tolerated (non acute events). Biochemical response was observed in all pts.

Conclusions: SR-RT is a feasible approach for isolated local recurrent primary prostate cancer, offering excellent in-field tumor control and a low toxicity profile. Further investigation with a bigger number of pts is warranted to identify the patients who benefit most from this treatment modality.

EP-1115
Accuracy of set-up position in lung SBRT
M. Hetnal1, A. Sladowska1, K. Ksiecielewicz2, A. Kukielka1, P. Brandys1, M. Pecak3
1Centre of Oncology - Institute MSC Krakow, Radiation Oncology, Krakow, Poland
2Centre of Oncology - Institute MSC Krakow, Medical Physics, Krakow, Poland

Purpose/Objective: Stereotactic lung tumor radiotherapy are frequently only one therapeutic option in non-small cell lung cancer patients without regional and distant metastases who are inoperable due to medical reasons. In Centre of Oncology in Krakow SBRT protocol has been implemented in 2010. Aim of this study is to assess verification of set-up position before treatment and early results of the treatment.

Materials and Methods: In 74 pts is warranted to identify the patients who benefit most from this treatment modality.

Results: The median follow-up period in patients undergoing radiation therapy was 9 months. Three tumor progression occurred after approximately 6 months (in two cases metastatic tumor, in one case tumor with central location). Local control rate was about 87%. Radiation tolerance was good, only one patient had shortness of breath, which subsided after the administration of steroids. Shifts in the X-axis table ranged from 0 to 15 millimeters (mean ± 3.5 mm, median ± 3 mm, SD ± 3 mm). 83% of all shifts ranging from ±2mm of the measurements). The Y axis ranged from 0 to 10 millimeters (mean ± 3.5 mm, median ± 3 mm, SD ± 3 mm, 83% of all shifts ranging from ±2mm of the measurements). The total dose was 30 Gy in 5 fractions. Up till now, SR-RT was well tolerated (non acute events). Biochemical response was observed in all pts. PET/CT and biopsy was performed before treatment.

Conclusions: Preliminary results of stereotactic radiotherapy treatment of lung tumors are similar to the results reported by other authors. Consequently, the data relating to the accuracy of set-up was included in the updated treatment protocol.

EP-1116
Management of arterio-venous malformation (AVM) with stereotactic radiosurgery
A. Caruso1, V. Mingione2, E. Cotroneo1, A. Delitala1, V. Donato1
1Ospedale S:Camillo Forlanini, Neurosurgery, Roma, Italy
2Ospedale S:Camillo Forlanini, Neuroradiology, Roma, Italy

Purpose/Objective: Resection is often the first option recommended for patients with smaller AVMs in noncritical areas of the brain; smaller AVMs are inoperable due to their large size, eloquent location, deep venous drainage, and/or other anatomical considerations that are associated with unacceptable high rates of morbidity and mortality. Stereotactic radiosurgery (SRS) has been widely used to treat intracranial AVMs of complex anatomical location too. We reviewed our experience with radiosurgery of AVM with particular attention to clinical response and toxicity with different delivered dose.

Materials and Methods: From January 2009 to November 2011, 22 patients with diagnosis of AVM were treated at Sam Camillo Forlanini Radiotherapy department. Median age at SRS was 36,14 years (range 11-63). 12 AVMs (54,5%) were located in brain left side with a prevalence involvement of the frontal lobe (5 left/2 right), parietal lobe (4 left/2 right), temporal lobe (3 left/2 right), occipital lobe (1 left/2 right) and one stied in left cerebellum. We compared two groups of patients: in the first group (15 pts-68%) delivered dose was 20 Gy with a median volume of 2.03 cc (0.1 - 6.7 cc); the latter group (7 pts-31.5%) received 16 Gy or less on a median volume of 8.97 cc.