

## Abstracts

---

### P06.12. ROBOTIC STEREOTACTIC HYPOFRACTIONATED RADIOTHERAPY IN MENINGIOMAS

B. Sahin<sup>1</sup>, B. Atalar<sup>2</sup>, G. Aydın<sup>1</sup>, G. Güngör<sup>1</sup>, B. Yapıcı<sup>1</sup>, and E. Özyar<sup>2</sup>;  
<sup>1</sup>Maslak Acıbadem Hospital, İstanbul, Turkey; <sup>2</sup>Acıbadem University School of Medicine, Radiation Oncology Department, İstanbul, Turkey

**PURPOSE:** Robotic stereotactic hypofractionated radiotherapy (SRT) become an important modality in the treatment of cranial meningiomas. In this study, we analysed the treatment parameters and outcomes of our cranial meningioma patients treated with SRT. **MATERIALS AND METHODS:** Between 2009 and 2013, 103 cranial meningioma lesions of 93 patients were treated with CyberKnife (Accuray®) Stereotactic Radiosurgery Unit. 42 patients (45%) received SRT as primary modality, and 51 patients (55%) received postoperatively. Six patients have treated with external beam radiotherapy. Of the 103 cases, 69 of the lesions were

located basally, 34 of them nonbasally. The most common symptoms in patients with basal tumours (38 patients, 58%) was deterioration in the visual field and the restriction of the eye movements and in patients with non-basal tumours (8 patients, 26%) was headache. In 33 patients (32%) tumours were located just adjacent to the optic apparatus or brain stem, 27 of them (26%) were located close (<1cm) to the optic apparatus or brain stem. SRT dose and fractionation were determined according to tumor localization. Optical apparatus and brainstem maximum point dose constraints for one fraction were 10 Gy and 14 Gy; 25 Gy and 30 Gy were for 5 fractions. **RESULTS:** The median age was 44 (16-81). The female to male ratio was 73/20 (3.6/1). Median follow-up was 10 months (1-37 months). The median dose was 2500cGy (1500 - 3000 cGy). The median number of fraction was 5 (1-5 fractions) fraction. GTV volume ranged between 0.66 cm<sup>3</sup> and 80.6 cm<sup>3</sup> (Median 12.4 cm<sup>3</sup>). Median conformity index was 1.4 (1.06 to 2.03) and the median homogeneity index was 1.25 (1.09 to 1.56). Among the patients with follow up, local control rate was 98%. Only one patient with parasagittal meningioma underwent decompressive surgery due to radiation induced edema. All other side effects were either grade I or II. The most common side effect was headache associated with brain edema in 10 patients (11%). **CONCLUSION:** Hypofractionated SRT is an effective treatment method in patients with cranial meningiomas with excellent rate of local control and minimal side effects.