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Abstract

Stereotactic Radiosurgery for Spinal Metastases

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Abstract

Objectives: To evaluate the efficacy and safety of radiosurgery for spinal metastases.

Methods: Ninety seven spinal metastases from a variety of primary tumors from 70 patients were treated with radiosurgery between June 2013 and January 2017. Seventy seven percent of the patients were treated with LINAC and the rest with robotic radiosurgery. The constraints and plans were performed according to RTOG 0631 protocol. Eighty five of the lesions were treated with single fraction of 16 or 18 Gy and the rest were treated with 3 fractions of 24 Gy. The image guidance was performed according to the treatment platform either with cone beam computed tomography or X sight spine tracking. Local control was determined with radiological evaluation either with PET-CTand/or magnetic resonance imaging.

Results: Median age was 59 (28-83) and the majority of the patients were male. Thirty six lesions were treated with curative intent with the diagnosis of oligometastatic disease and the rest were treated for pain palliation. Median follow up was 7 months (3-45). Five local relapses determined in 5 patients, 4 of them were in 6 month period. Local control rates at 6, 12 and 24 months were 94%, 92% and 92% respectively. Pain was palliated in all of the patients treated. Local control rates did not differ according to the dose and fraction size (p=0,7). Thirty six patients were still alive during the analysis. Overall survival rates at 6, 12 and 24 months were 78%, 51% and 34% respectively. No serious toxicity was observed except 1 patient with reversible myelitis after 6 months.

Conclusions: Stereotactic radiosurgery for spinal metastases is a convenient, efficient and safe treatment modality for metastatic disease with rapid pain palliation without delays in systemic therapy.

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