

Pain relief by cyberknife radiosurgery for spinal metastasis

Sunyoung Lee¹, and Mison Chun²

¹Department of Radiation Oncology, Konyang University School of Medicine, Daejeon; ²Department of Radiation Oncology, Ajou University School of Medicine, Suwon, Korea

ABSTRACT

Aims and background. To report pain relief effect in patients with spinal metastases treated with Cyberknife[®] and to analyze the factors associated with pain relapse after initial pain relief.

Methods and study design. We retrospectively analyzed patients with spinal metastasis treated with stereotactic body radiosurgery between April 2007 and June 2009. A total of 57 patients with 73 lesions were available for analysis with a median follow-up of 6.8 months (range, 1-30). Pain was assessed by a verbal/visual analogue scale at each visit: from 0 to 10. Pain relief was defined as a decrease of at least three levels of the pain score without an increase in analgesic use. Complete relief was defined as no analgesics or a score 0 or 1.

Results. Pain relief was achieved in 88% of the lesions, with complete relief in 51% within 7 days from the start of radiosurgery. The median duration of pain relief was 3.2 months (range, 1-30). Pain reappeared in 16 patients (27%). Spinal cord compression ($P = 0.001$) and performance status ($P = 0.01$) were predictive of pain relapse by multivariate Cox analysis. All 6 patients treated with solitary spinal metastasis experienced pain relief; 5 of them were alive without evidence of disease at a median of 16 months (range, 7-30).

Conclusions. As previous studies have shown, our study confirms that pain relief with spinal radiosurgery is around 90%. In particular, long-term pain relief and disease control was observed in patients with solitary spinal metastasis.

Key words: cyberknife, pain relief, pain relapse, spinal radiosurgery.

Correspondence to: Sunyoung Lee, MD, Department of Radiation Oncology, Konyang University School of Medicine, Gasuwon-dong, Seo-gu, Daejeon, Korea, 302-718.
Tel +82-42-600-6720;
fax +82-42-600-9469;
email sunlight1018@hanmail.net

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