

1: J Neurosurg Spine. 2005 May;2(5):540-9

CyberKnife stereotactic radiosurgical treatment of spinal tumors for pain control and quality of life.

Degen JW, Gagnon GJ, Voyadzis JM, McRae DA, Lunsden M, Dieterich S, Molzahn I, Henderson FC.

Department of Neurosurgery, Georgetown University Hospital, Washington, DC 20007, USA.

OBJECT: The authors conducted a study to assess safety, pain, and quality of life (QOL) outcomes following CyberKnife radiosurgical treatment of spinal tumors.

METHODS: Data obtained in all patients with spinal tumors who underwent CyberKnife radiosurgery at Georgetown University Hospital between March 2002 and March 2003 were analyzed. Patients underwent examination, visual analog scale (VAS) pain assessment, and completed the 12-item Short Form Health Survey (SF-12) before treatment and at 1, 3, 6, 8, 12, 18, and 24 months following treatment. Fifty-one patients with 72 lesions (58 metastatic and 14 primary) were treated. The mean follow-up period was 1 year. Pain was improved, with the mean VAS score decreasing significantly from 51.5 to 21.3 at 4 weeks ($p < 0.001$). This effect on pain was durable, with a mean score of 17.5 at 1 year, which was still significantly decreased ($p = 0.002$). Quality of life was maintained throughout the study period. After 18 months, physical well-being was 33 (initial score 32; $p = 0.96$) and mental well-being was 43.8 (initial score 44.2; $p = 0.97$). (The mean SF-12 score is 50 +/- 10 [standard deviation].) Adverse effects included self-limited dysphagia (three cases), diarrhea (two cases), lethargy (three cases), paresthesias (one case), and wound dehiscence (one case).

CONCLUSIONS: CyberKnife radiosurgery improves pain control and maintains QOL in patients treated for spinal tumors. Early adverse events are infrequent and minor. The authors await long-term follow-up data to determine late complications and tumor control rates.

Publication Types:

- Clinical Trial

PMID: 15945428 [PubMed - indexed for MEDLINE]