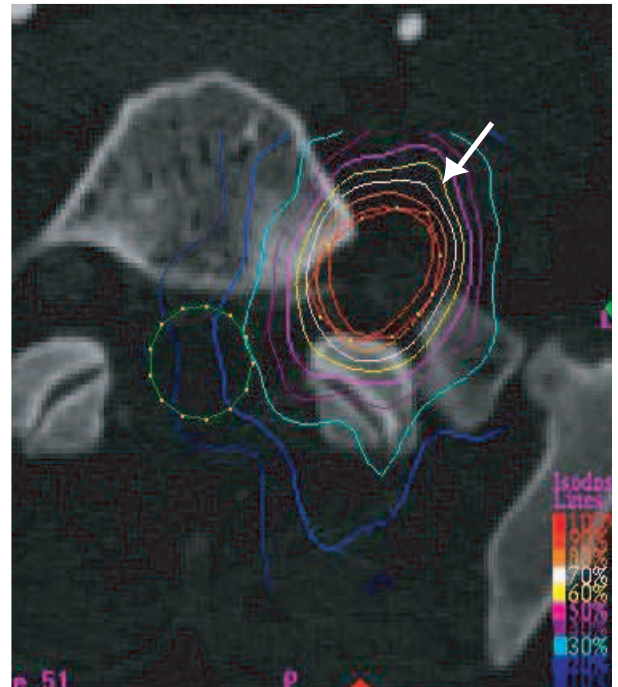
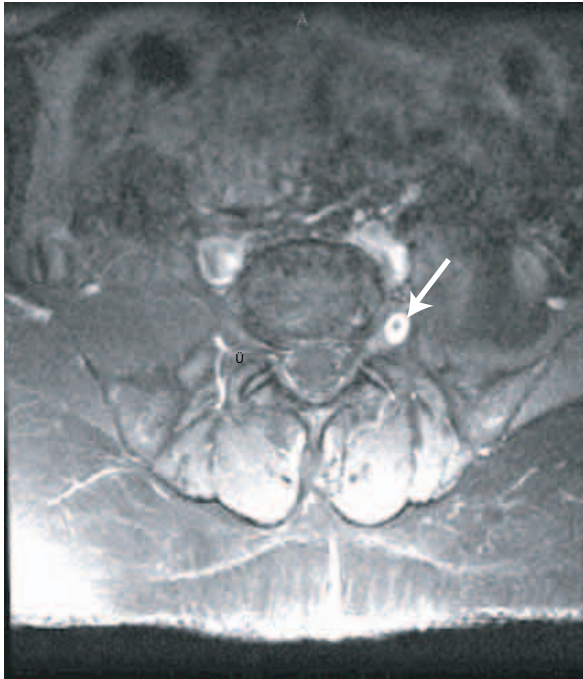


CASE STUDY

Lumbar Spine

Extracranial Treatment of a L-5 Neurofibroma



Courtesy of Dr. Peter Gerszten, University of Pittsburgh Medical Center

Patient History

A 32-year-old woman diagnosed with neurofibromatosis Type 1. The patient suffered from severe left L5 radicular pain, poorly controlled with narcotic analgesics. The MR image revealed a left L5 neurofibroma consistent with her complaints. The patient had no motor deficit, and surgical excision was felt to be inappropriate. CyberKnife radiosurgery was recommended.

CyberKnife Advantage

The role of stereotactic radiosurgery for the treatment of benign intracranial lesions is well established. Lesions located in the lumbar spine are not amenable to conventional frame-based radiosurgery systems. Problems with target immobilization for this small lesion preclude single fraction radiosurgery using conventional radiotherapy devices.

Treatment

A 30 minute percutaneous fiducial placement procedure was performed one week prior to her radiosurgery treatment. The patient was immobilized in a Vac Lok™ immobilization device. A 5 mm collimator was used to treat with a single fraction to a prescribed dose of 1600 cGy that was calculated to the 80% isodose line. The Dmax was 2000 cGy, and the tumor volume was 3.2 cc. The maximum dose to the thecal sac was 660 cGy.

Outcome & Follow-Up

Treatment was tolerated without difficulty or any discernible effects and lasted less than 30 minutes. No sedation was necessary, and the patient went home that day. The patient reported a significant improvement in pain within one month that has continued through her one year follow-up.



CyberKnife Team:

- |                       |                         |
|-----------------------|-------------------------|
| Radiation Oncologist: | Steve Burton, M.D.      |
| Neurosurgeon:         | Peter C. Gerszten, M.D. |
| Medical Physicist:    | Cihat Ozhasoglu, Ph.D.  |
| Radiation Therapist:  | Julie Sussi, RTT        |