CASE STUDY

Meningioma

Treatment of a Meningioma Attached to the Optic Chiasm (Residual Tumor)

Patient History
A 66-year-old female with a history of multiple meningiomas presented with a suprasellar tumor and a significant constriction of her peripheral visual field. This tuberculum sellae meningioma was resected via a pterional craniotomy (Simpson B), which resulted in complete visual loss in her left eye. She was treated postoperatively with fractionated radiation therapy. The patient also developed a recurrent meningioma at the posterior margin of the resection site though most of this lesion was resected during a repeat craniotomy. However, a tumor nodule found to be quite adherent to the inferior surface of the optic chiasm was not removed.

CyberKnife Advantage
Because of both the prior history of radiation and the close proximity of this tumor to the optic chiasm in a woman who was already blind in the left eye, surgical resection was not an attractive option.

Treatment
The patient was treated on the frameless CyberKnife at Stanford University with a 12.5 collimator using 5 fractions to a total dose of 30 Gy.

Outcome & Follow-Up
At 6 and 15 month follow-ups, MRI imaging revealed complete regression of the optic chiasm tumor, although a right periventricular lesion was discovered and subsequently treated with the CyberKnife. The periventricular lesion was treated with a 12.5 collimator using 2 fractions to a total dose of 18 Gy. At the 4-year follow-up, the optic chiasm lesion remains clear and the patient retains all pre-radiosurgery visual capability. At 3-year follow-up, the periventricular lesion shows continued reduction of tumor size.

CyberKnife Team
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