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Long-term results of Gamma Knife surgery for optic nerve sheath meningioma. Clinical article.

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Abstract

OBJECT: The goal of this study was to assess the long-term results of Gamma Knife surgery (GKS) in patients harboring an optic nerve sheath meningioma (ONSM).

METHODS: Thirty patients harboring an ONSM were treated with GKS between 1998 and 2003. Gamma Knife surgery was performed as the sole treatment option in 21 of these patients and resection had been performed previously in 9 patients. The mean volume of the tumor at the time of GKS was 3.6 cm(3) (range 1.4-9.7 cm(3)), and the mean prescription peripheral dose was 13.3 Gy (range 10-17 Gy). The mean number of isocenters used to treat these lesions was 8 (range 5-14 isocenters).

RESULTS: At a median follow-up of 56 months, visual acuity improved in 11 patients, remained stable in 13 patients (including 4 patients who were completely blind before GKS), and deteriorated in 6 patients. Follow-up images were available in all patients and showed tumor regression in 20 patients and stable tumor in 8 patients. Persistent imaging evidence of progression was only present in 2 patients. With the exception of reversible conjunctival edema in 4 cases, no other serious acute side effect was observed.

CONCLUSIONS: Gamma Knife surgery provides long-term tumor control for ONSM. The results of this study add substantial evidence that GKS may definitely become a standard treatment approach in selected cases of ONSM.

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