
Genc A, Bozkurt SU, Karabagli P, Seker A, Bayri Y, Konya D, Kilic T.
Department of Neurosurgery, Medical Faculty, Marmara University, Istanbul, Turkey.

Abstract
Gamma-knife surgery may be an effective alternative for treatment of central neurocytomas owing to its relative safety compared with conventional radiotherapy. In this paper we present results of gamma-knife treatment (GKS) of residual or recurrent neurocytomas. Twenty-two patients (14 female, 8 male) with recurrent or residual neurocytomas who underwent GKS were included. Diagnosis was based on histological findings. The proliferative potential of the tumors was examined by immunostaining with MIB-1 antibody, which is specific for detection of Ki-67 antigen. Tumor volume was determined by using post-gadolinium magnetic resonance images. After GKS treatment, MR imaging was scheduled at three-month intervals in the first year, at six months intervals in the second year, and yearly thereafter. Histopathological diagnoses were: 18 cases of central neurocytomas, two liponeurocytomas, one cerebral neurocytoma and one cerebellar neurocytoma. The MIB1 labeling index (LI) varied from 0 to 5.7%. Marked reduction in tumor volume was seen in 15 patients. In six patients, the tumor volume remained unchanged, and progression was observed for one patient. No complications because of GKS were noted. Shrinking effect on tumor volume increased with increasing duration of follow-up. On the other hand, high MIB labeling index did not seem to have an effect on tumor response to GKS treatment. Findings of this study suggest that GKS is an effective and safe treatment alternative for residual or recurrent neurocytomases. However, its effectiveness should be confirmed with larger studies.

PMID: 21732073 [PubMed - indexed for MEDLINE]