



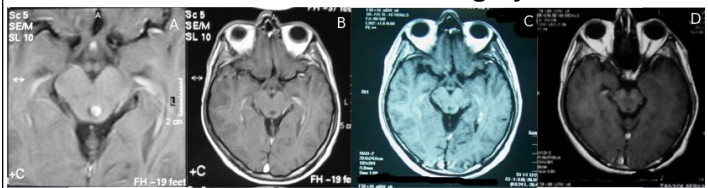
Introduction

Tectal plate tumos are deeply located pathologies that large number of them are happened to be a pilocytic astrocytoma or other low grade glial tumor. Management of lesions involved imaging studies, shunt placement if cerebrospinal fluid diversion was required, surgery if tumor is on surgically reachable location. Nonetheless, their treatment remains a significant challenge for neurosurgeons. Gamma Knife Radiosurgery (GKR) has been tried as an alternative method to surgical excision. In the present study the authors assess clinical and imaging results in 33 patients who have tectal plate tumors treated with GKR between 1997 and 2011.

Methods

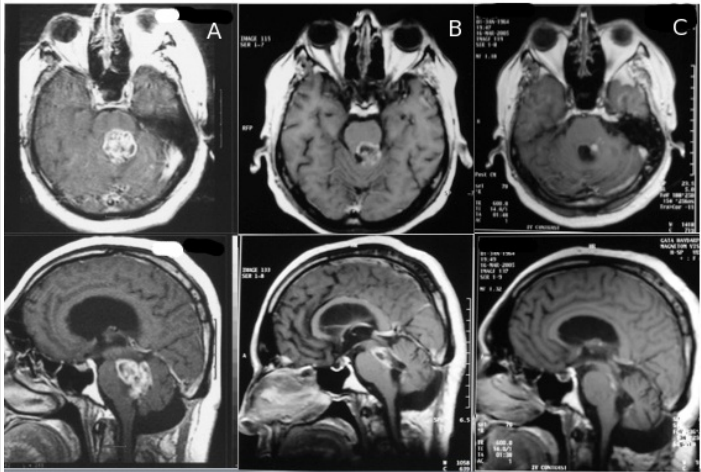
The study population consisted of 17 male and 16 female patients, with a mean age of 24 years (median 18 years, range 3–61 years). All patients presented with progressive tumor growth and/or neurological deficits. All tumors are located on or arised from tectum of mesencephalon. GammaKnife radiosurgery has been performed for all tumors between 1997 to 20011 . A mean dose of 14.29 Gy (median 14 Gy; range 10–22 Gy) was given to the tumor margin prescribed to an isodose configuration %50 . The mean maximum dose was 28.58 Gy (median 28 Gy, range 20–44 Gy).

Patient 1: 19 years old male, 4 year follow up after GammaKnife Radiosurgery



A:Pre-GammaKnife MRI B: 1st year control MRI C: 2nd year control MRI D: 4th year control MRI

Patient 2: 29 years old male, 2 years Follow up after GammaKnife Radiosurgery



A: Pre-Gamma Knife Radiosurgery B: 1st year control MRI
C: 2nd year control MRI

Results

The mean follow up time is 54 months, 18 of the patients (54.1%) tumors radiologically disappeared, 12 patients(36%) tumor volume significantly decreased, 3 lesions hasn't shown significant changes. .Symptoms of increased intracranial pressure caused by obstructive hydrocephalus.Tumors in 12 patients had been managed with a VP shunt. 5 patients with hydrocephalus had endoscopic third ventriculostomy. Histopathological diagnoses included 10 pilocytic astrocytomas 7 of them dianosed by microsurgery and 3 patients with stereotactic radiosurgery, remaining 23 patient's diagnosis were based on clinical and imaging findings.

Conclusions

Gamma Knife Radiourgery may be an effective primary treatment or adjunct to open surgery for tectal plate gliomas.

Learning Objectives

GammaKnife effectiveness for tectal plate gliomas.

References

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