

Introduction

Meningiomas are histologically classified as benign tumors but clearly malignant types have been encountered. They are potentially curable when completely excised. The standard mode of treatment is total macroscopic removal with excision of the dural attachment and abnormal bone. The estimated recurrence rate is 9-15% within 10 years for benign tumors and 28% at 5 years for atypical tumors. Although various histopathological, radiological, and surgical features have been associated with aggressive behavior and recurrence of meningiomas, there is little agreement about which factors are more relevant.

We retrospectively analyzed our 10-year experience of recurrent meningiomas and the pertinent literatures are reviewed.

Methods

During the last 10 years, 314 meningiomas were treated surgically and 301 meningiomas were treated by gamma knife radiosurgery. Among them, 31 patients were diagnosed as the recurrent meningiomas which were treated surgically previously. We analyzed these 31 patients retrospectively and reviewed the correlation between recurrence and the following factors ; age, gender, tumor location, tumor volume, consistency, vascularity, bone change, the grade of surgical resection, histological subtype.

Results

Thirty-one patients were treated by 56 operations and 25 Gamma knife radiosurgery.

Mean interval from first treatment to recurrence was 4.3 years. Mean age was 59, male/female ratio was 14:17. The location of tumors was 6 patients in parasagitta, 9 in convexity and 16 in the skull base(sphenoid ridge, cavernous sinus, olfactory groove).

The grade of previous surgical resection was 12 patients in Simpson grade I, 11 in II, 3 in III, 5 in IV. The most common histological subtype was meningothelial and 4 malignant type were included.

Conclusions

We analyzed 31 recurrent meningiomas retrospectively and reviewed the related factors. Grade of surgical resection and histological type were important factors of recurrence and the tumor location and size seems to be related.

It must be pointed out that the regular and long-term follow-up is very important because the recurrence rate of meningioma is considerable and if it recurred, the growing nature is slow, the clinical symptoms may arise only late and the optimal therapeutic opportunities may have been missed.

Learning Objectives

Post-op long term follow-up must be important regardless of its Simpson's surgical excision grade and pathological grade.

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