

Anaplastic Meningioma: A Comprehensive Analysis of Prognostic Factors and Management in 60 Cases from 2003-2008

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Introduction

Anaplastic meningioma is a rare but predominant malignant subtype of meningiomas with a high recurrence rate and poor prognosis, while prognostic factors and optimal management remain controversial.

Methods

All adult anaplastic meningioma patients treated from 2003 through 2008 at our institution were reviewed in this retrospective study, and the latest follow-up time point was in June 2012. The clinical charts, postoperative treatment, outcomes and treatment after recurrence were analyzed. Kaplan-Meier survival curve and Cox proportional hazards modeling was used to assess possible prognostic factors.

Results

The mean follow-up period was 48.8 months (1-112) months). Thirty-six patients were at initial presentation and 24 patients had history of previous operated meningiomas. Tumor recurred in 53.3% (32/60) of all patients. Median progression-free survival (PFS) was 42.0 months; 3-and 5-year PFS rates were 56.7% and 26.7%, respectively. Suspected metastases were found in 4 patients. Tumor-induced mortality occurred in 46.7% (28/60) patients with mean interval at 48.8 months after diagnosis (1-72 months). Overall survival rate was 67.7% and 35.5% at 3 years and 5 years, respectively. Of the 32 recurred patients, the median survival time was 14 month. Multivariate analysis identified adjuvant radiotherapy as an independent factor affecting PFS for patients at initial presentation. Among recurred patients, two major factors were associated with a significantly longer OS, one is MIB-1 index less than 5%, and the other is positive treatment after recurrence, such as reoperation and radiotherapy .

References

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- 2. Dolecek TA, et al. Neuro-oncol, 2012, 14:1-49.
- 3. Hanft S, et al. J Neuro-oncol, 2010, 99:433-43.
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Conclusions

Anaplastic meningioma had a high recurrence rate and possible metastasis, which leads to a high mortality. Combined therapy of surgery and radiotherapy is effective for progression free of patients with first-ever meningioma, and for recurrent patients, reoperation is also recommended if it is feasible. When determining optimal treatment strategies, patients with different initial status and/or MIB-1 index should be considered.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of the combination therapy of operation plus radiotherapy, 2) Discuss, in small groups, further possible study which could lead to more accurate estimates of anaplastic meningioma, and determine the optimal management. 3) Identify an effective treatment for anaplastic meningioma.

Recursive partitioning of the 63 cases showing



Preoperative MRI of anaplastic meningiomas in three patients



Histology of anaplastic meningioma

