Atypical Meningioma Recurrence

see Atypical Meningiomas: Histological and Clinical Factors Associated With Recurrence [1].

Grade II atypical meningiomas tend to recur and grow faster.

Study limitations, including inadequate statistical power, may underlie the studies' inability to demonstrate a statistically significant benefit for adjuvant radiotherapy in AM. Because these tumors preferentially recur within 5 years of surgical resection, future studies should define whether early adjuvant therapy should become part of the standard treatment paradigm for completely excised tumors [2].

Recurrence rate

The overall postoperative recurrence rate of atypical meningioma was 38%. The subgroup analysis showed that the tumor recurrence rate of patients ≥60 years old and<60 years old was 51% and 40%, respectively, with no significant difference. The tumor recurrence rates in male and female patients were 42% and 44%, respectively, which showed no significant difference.The recurrence rates of the patients with parasagittal meningiomas,brain tissue infiltration,Ki-67>8%,mitotic count ≥6/10 high-power fields,and tissue necrosis were 52%,47%,63%,53%,and 69%,respectively.The recurrence rate after subtotal tumor resection was as high as 58%, and the patients who received radiotherapy had a higher tumor recurrence rate than those who did not receive radiotherapy (38% vs.29%, P=0.007). The current evidence demonstrates that atypical meningioma has a high recurrence rate after surgery. It is essential to pay more attention and take corresponding measures to improve the tumor-free survival rate of the patients [3].

Retrospective series supports the observation that postoperative radiotherapy likely results in lower recurrence rates of gross totally resected atypical meningiomas.

Patients older than 55 years and those with mitosis noted during pathological examination had a significant risk of recurrence after GTR; for these patients, postoperative radiotherapy is recommended [4].

After GTR without postoperative radiation, AMs have a high recurrence rate. Most recurrences occurred within 5 years after resection. Recurrences caused numerous reoperations per patient and shortened survival [5].

A multicenter prospective trial will ultimately be needed to fully define the role of radiotherapy in managing gross totally resected atypical meningiomas [6].

Brain invasion and high mitotic rates may predict recurrence. After gross total resection (GTR) of AMs, EBRT appears not to affect progression free survival and overall survival, suggesting that observation rather than EBRT may be indicated after GTR [7].

Meta-analysis

Atypical Meningioma Recurrence meta-analysis.

Case series

Atypical meningioma has a higher recurrence rate than benign meningioma. The mainstay of treatment is surgery with or without radiation therapy (RT). The objective of this study was to investigate progression-free survival (PFS) and factors associated with postoperative recurrence in patients with atypical meningioma.

METHODS: Patients with diagnoses of atypical menigioma who underwent surgery at Siriraj Hospital during the 2004 to 2014 study period were included. Features potentially associated with PFS and tumor recurrence from clinical records, operative records, and neuroimaging studies were evaluated and analyzed.

RESULTS: One hundred twenty-six patients (mean age, 55 years) were included. The median PFS was 55 months. The 5-year and 10-year PFS rates were 72.5% and 32%, respectively. The median follow-up duration was 52 months. In multivariate analysis, tumor location (convexity, parasagittal/falcine, intraventricular, skull base) (P = 0.003), and pial invasion (hazard ratio [HR]: 2.02; P = 0.045) were significantly associated with tumor recurrence. Postoperative RT was associated with reduction in tumor recurrence in both univariate (odds ratio: 0.48; P = 0.039) and multivariate analysis (HR: 0.42; P = 0.005).

Tumor location and pial invasion were significantly correlated with increased incidence of tumor recurrence, and postoperative RT was found to be significantly associated with decreased tumor progression and recurrence. [8].

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