Predictors of mortality following treatment of intracranial hemangiopericytoma.

Rutkowski MJ, Sughrue ME, Kane AJ, Aranda D, Mills SA, Barani IJ, Parsa AT.
Brain Tumor Research Center, Department of Neurological Surgery, University of California, San Francisco, California, USA.

Abstract
OBJECT: Intracranial hemangiopericytoma (HPC) is a rare and malignant extra-axial tumor with a high propensity toward recurrence and metastasis. Given this lesion's rarity, little information exists on prognostic factors influencing mortality rates following treatment with surgery or radiation or both. A systematic review of the published literature was performed to ascertain predictors of death following treatment for intracranial HPC.

METHODS: The authors identified 563 patients with intracranial HPC in the published literature, 277 of whom had information on the duration of follow-up. Statistical analysis of survival was performed using Kaplan-Meier and Cox regression analysis.

RESULTS: Hemangiopericytoma was diagnosed in 246 males and 204 females, ranging in age from 1 month to 80 years. Among patients treated for HPC, overall median survival was 13 years, with 1-, 5-, 10-, and 20-year survival rates of 95%, 82%, 60%, and 23%, respectively. Gross-total resection alone (105 patients) was associated with superior survival rates overall, with a median survival of 13 years, whereas subtotal resection alone (23 patients) resulted in a median survival of 9.75 years. Subtotal resection plus adjuvant radiotherapy led to a median survival of 6 years. Gross-total resection was associated with a superior survival benefit to patients regardless of the addition or absence of radiation, and patients receiving >50 Gy of radiation had worse survival outcomes (median survival 4 vs 18.6 years, p < 0.01, log-rank test). Patients with tumors of the posterior fossa had a median survival of 10.75 versus 15.6 years for those with non-posterior fossa tumors (p < 0.05, log-rank test).

CONCLUSIONS: Treatment with gross-total resection provides the greatest survival advantage and should be pursued aggressively as an initial therapy. The addition of postoperative adjuvant radiation does not seem to confer a survival benefit.

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