Tumor control after surgery and radiotherapy for pineocytoma.

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Abstract
OBJECT: Pineocytoma is a rare tumor, and the current literature on these tumors is primarily composed of case reports and small case series. Thus, recommendations on appropriate treatment of these tumors are highly varied. Therefore, the authors performed a systematic review of the literature on tumor control after surgery for pineocytoma to determine the relative benefits of aggressive resection and postoperative adjuvant radiotherapy.

METHODS: A comprehensive search of the published English-language literature was performed to identify studies citing outcome data of patients undergoing surgery for pineocytoma. Determination of rates of progression-free survival (PFS) was performed using Kaplan-Meier analysis.

RESULTS: Sixty-four articles met the criteria of the established search protocol, which combined for a total of 166 patients. Twenty-one percent of these patients had undergone a biopsy procedure, 38% had undergone subtotal resection (STR), 42% had undergone gross-total resection, and 28% were treated with radiation therapy. The 1- and 5-year PFS rates for the resection group versus the biopsy group were 97 and 90% (1 year), and 89 and 75% (5 years), respectively (p < 0.05, log-rank test). The 1- and 5-year PFS rates for the GTR group versus the group undergoing STR combined with radiation therapy were 100 and 94% (1 year), and 100 and 84% (5 years), respectively (p < 0.05, log-rank test). There was no significant difference in PFS for STR only compared with STR in addition to radiation therapy.

CONCLUSIONS: Gross-total resection is the ideal treatment for pineocytoma and might represent a cure for these lesions. When gross-total resection is not possible, adjuvant radiation therapy after STR is of questionable benefit for these patients.