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Adjuvant Therapy And Overall Survival In Pediatric Patients With Anaplastic Ependymoma

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Disclosures

• No disclosures.
Introduction

• Treatment of anaplastic ependymoma (AE) usually involves surgical resection followed by radiotherapy, even if gross total resection is achieved. However, the efficacy of chemotherapy as adjuvant therapy in pediatric patients remains unclear.
Methods

• The Surveillance, Epidemiology, and End Results (18 registries, 1975-2016) database of the National Cancer Institute was queried to identify patients with AE (ICD-O-3 code 9392/3), topography codes C71.0-C71.9, ages 0-21. Patients with incomplete data or lacking microscopic confirmation were excluded.

• Primary endpoint was overall survival. Univariable analysis was performed using Kaplan-Meier survival estimates and log-rank test. Multivariable Cox proportional hazards regression model adjusted for age, gender, race, year of diagnosis, supratentorial location, tumor size, and treatments were used for survival analysis.
Results

• Among 273 patients with AE, the median age was 3 years [IQR, 1-9], 54% were male and 76% were white. The median tumor size was 50mm [38-60mm] and the most common location was the brainstem (24%).

• Treatment included surgical resection in 85% of patients, post-operative radiotherapy in 77%, and chemotherapy in 38%.

• There was an increase in the proportion of patients treated with post-operative radiotherapy over the course of the study (50% vs. 76%, 2004 vs. 2016; p<0.05).
Results

• In univariable analysis, patients who underwent gross total resection had an improved survival compared to those undergoing a partial resection.

• Patients undergoing post-operative radiotherapy showed a trend towards improved survival.
Results

• In adjusted survival analysis, patients undergoing post-operative radiotherapy showed a trend towards improved survival (HR 0.63 [0.34-1.13]).

• Patients undergoing chemotherapy did not experienced a better survival compared to those who did not receive this treatment (HR 1.06 [0.60-1.88]).
Discussion

• Current guidelines recommend to pursue gross total resection (GTR) and perform post-operative radiotherapy (RT) in patients with a grade III tumor.

• Here, we find that this treatment approach is beneficial for pediatric patients with anaplastic ependymoma.

• Contrarily, the benefit from chemotherapy is still controversial and only reserved when all other therapies have failed.

• In this cohort, chemotherapy was not associated with a better outcome, which is consistent with “real-world” practice.
Summary Points

• Surgical resection and postoperative radiotherapy is the cornerstone of treatment in these patients, providing a better outcome in AE patients.

• The benefit from adjuvant chemotherapy in pediatric patients remains unclear.