Diffuse intrinsic pontine gliomas: treatments and controversies.

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Abstract

Diffuse intrinsic pontine gliomas (DIPGs) are a fairly common pediatric brain tumor, and children with these tumors have a dismal prognosis. They generally are diagnosed within the first decade of life, and due to their location within the pons, these tumors are not surgically resectable. The median survival for children with DIPGs is less than 1 year, in spite of decades of clinical trial development of unique approaches to radiation therapy and chemotherapy. Novel therapies are under investigation for these deadly tumors. As clinicians and researchers make a concerted effort to obtain tumor tissue, the molecular signals of these tumors are being investigated in an attempt to uncover targetable therapies for DIPGs. In addition, direct application of chemotherapies into the tumor (convection-enhanced delivery) is being investigated as a novel delivery system for treatment of DIPGs. Overall, DIPGs require creative thinking and a disciplined approach for development of a therapy that can improve the prognosis for these unfortunate children.

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