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Unique molecular, clinical, and treatment aspects of gliomas in adolescents and young adults: a review

Mary Jane Lim-Fat ¹, Sunit Das ²

Affiliations

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Abstract

Adolescent and young adult (AYA) patients with glioma have historically had poorer outcomes than similar patients of younger or older age, a disparity thought to be attributable to the social and economic challenges faced by this group in the transition from childhood to adult life, delays in diagnosis, low participation of AYA patients in clinical trials, and the lack of standardized treatment approaches specific to this patient group. Recent work from many groups has informed a revision of the World Health Organization classification schema for gliomas to identify biologically divergent pediatric- and adult-type tumors, both types of which may occur in AYA patients, and revealed exciting opportunities for the use of targeted therapies for many of these patients. In this review, the authors focus on the glioma types of specific concern to practitioners caring for AYA patients and the factors that should be considered in the development of multidisciplinary teams to facilitate their care.

Keywords: AYA; adolescent and young adult; glioma; molecular biomarker; oncology; precision medicine.