

## ABSTRACT

Cancer Immunol Immunother. 2022 Jan 12. doi: 10.1007/s00262-021-03131-y. Online ahead of print.

### **Pediatric glioblastoma: mechanisms of immune evasion and potential therapeutic opportunities.**

Njonkou R(1), Jackson CM(2), Woodworth GF(3)(4), Hersh DS(5)(6).

#### Author information:

(1)Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, USA.

(2)Department of Neurosurgery, Johns Hopkins University School of Medicine, Baltimore, MD, USA.

(3)Department of Neurosurgery, University of Maryland School of Medicine, Baltimore, MD, USA.

(4)Marlene and Stewart Greenebaum Comprehensive Cancer Center, University of Maryland School of Medicine, Baltimore, MD, USA.

(5)Division of Pediatric Neurosurgery, Connecticut Children's, Hartford, CT, USA. [dhersh@connecticutchildrens.org](mailto:dhersh@connecticutchildrens.org).

(6)Departments of Surgery and Pediatrics, UConn School of Medicine, Farmington, CT, USA. [dhersh@connecticutchildrens.org](mailto:dhersh@connecticutchildrens.org).

Pediatric glioblastoma is relatively rare compared with its adult counterpart but is associated with a similarly grim prognosis. Available data indicate that pediatric glioblastomas are molecularly distinct from adult tumors, and relatively little is known about the pediatric glioblastoma tumor microenvironment (TME). Cancer immunotherapy has emerged as a new pillar of cancer treatment and is revolutionizing the care of patients with many advanced solid tumors, including melanoma, non-small cell lung cancer, head and neck cancer, and renal cell carcinoma. Unfortunately, attempts to treat adult glioblastoma with current immunotherapies have had limited success to date. Nevertheless, the immune milieu in pediatric glioblastoma is distinct from that found in adult tumors, and evidence suggests that pediatric tumors are less immunosuppressive. As a result, immunotherapies should be specifically evaluated in the pediatric context. The purpose of this review is to explore known and emerging mechanisms of immune evasion in pediatric glioblastoma and highlight potential opportunities for implementing immunotherapy in the treatment of these devastating pediatric brain tumors.

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DOI: 10.1007/s00262-021-03131-y  
PMID: 35020009