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The strange Microenvironment of Glioblastoma

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Abstract

Glioblastoma (GB) is the most common and aggressive primary brain tumor, with poor patient survival and lack of effective therapies. Late advances trying to decipher the composition of the GB tumor microenvironment (TME) emphasized its role in tumor progression and potentialized it as a therapeutic target. Many components participate critically to tumor development and expansion such as blood vessels, immune cells or components of the nervous system. Dysmorphic tumor vasculature brings challenges to optimal delivery of cytotoxic agents currently used in clinics. Also, massive infiltration of immunosuppressive myeloid cells and limited recruitment of T cells limits the success of conventional immunotherapies. Neuronal input seems also be required for tumor expansion. In this review, we provide a comprehensive report of vascular and immune component of the GB TME and their cross talk during GB progression.

Keywords: Glioblastoma; Immunity; Microenvironment; Vasculature.

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