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# Tumor Metabolism: A New Field for the Treatment of Glioma

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## Abstract

The clinical treatment of glioma remains relatively immature. Commonly used clinical treatments for gliomas are surgery combined with chemotherapy and radiotherapy, but there is a problem of drug resistance. In addition, immunotherapy and targeted therapies also suffer from the problem of immune evasion. The advent of metabolic therapy holds immense potential for advancing more efficacious and tolerable therapies against this aggressive disease. Metabolic therapy alters the metabolic processes of tumor cells at the molecular level to inhibit tumor growth and spread, and lead to better outcomes for patients with glioma that are insensitive to conventional treatments. Moreover, compared with conventional therapy, it has less impact on normal cells, less toxicity and side effects, and higher safety. The objective of this review is to examine the changes in metabolic characteristics throughout the development of glioma, enumerate the current methodologies employed for studying tumor metabolism, and highlight the metabolic reprogramming pathways of glioma along with their potential molecular mechanisms. Importantly, it seeks to elucidate potential metabolic targets for glioblastoma (GBM) therapy and summarize effective combination treatment strategies based on various studies.

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