Reciprocal Supportive Interplay between Glioblastoma and Tumor-Associated Macrophages.

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Abstract

Glioblastoma multiforme (GBM) is the most lethal and aggressive type of primary brain malignancy. Failures of the traditional therapies in treating GBMs raise the urgent requirement to develop new approaches with more responsive targets. The phenomenon of the high infiltration of tumor-associated macrophages (TAMs) into GBMs has been observed for a long time. Regardless of the limited knowledge about TAMs, the high percentage of supportive TAM in GBM tumor mass makes it possible to be a good target for GBM treatment. In this review, we discussed the unique features of TAMs in GBMs, including their origin, the tumor-supportive properties, the secreted cytokines, and the relevant mechanisms. In addition, we tried to interpret the current understandings about the interplay between GBM cancer cells and TAMs. Finally, the translational studies of targeting TAMs were also described.

PMID: 24675569 [PubMed] Free full text