Immune checkpoint blockade improves antitumor vaccine response in mouse glioblastoma model

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Glioblastoma has an extremely poor prognosis, and there is a critical need for new therapies to treat the disease. Immunotherapy helps the immune system destroy cancer cells, and recent clinical evaluation of an immune cell-based vaccine has shown some benefits in early stage trials. Unfortunately, the response to this vaccine varies greatly amongst patients.

In this issue of *JCI Insight*, Robert Prins of UCLA and colleagues tested whether they could improve the efficacy of an antitumor vaccine in a murine glioblastoma model by simultaneously administering therapeutic antibodies that turn off so-called immune checkpoint molecules, known as PD-1 and PD-L1, which attenuate immune responses.

Using mice with established tumors, the research team showed that immune checkpoint blockade in combination with an antitumor vaccine improved survival and promoted infiltration of immune cells into the tumors.

These results of this study suggest that PD-1 and PD-L1 may help tumors become resistant to antitumor vaccines. Moreover, this study supports testing of such therapeutic combinations in clinical trials.

More information: Joseph P. Antonios et al, PD-1 blockade enhances the vaccination-induced immune response in glioma, *JCI Insight* (2016). DOI: 10.1172/jci.insight.87059