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Pembrolizumab in an HIV-infected patient with glioblastoma

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Abstract

Persons living with human immunodeficiency virus (PLWH) carry increased risk for developing malignancies, including glioblastoma. Despite extensive investigations, both human immunodeficiency virus (HIV) and glioblastoma are incurable. Treatment for a patient with combined glioblastoma and HIV remains an unexplored need. Preliminary evidence suggests that immunotherapy may be effective for the simultaneous treatment of both HIV and cancer by reversing HIV latency and T cell exhaustion. We present a case of glioblastoma in a PLWH who was treated with pembrolizumab. Treatment was well tolerated and safe with a mixed response. Our patient did not develop any opportunistic infections, immune-related adverse events, or worsening of his immunodeficiency. To our knowledge, this is the first reported case of a PLWH and glioblastoma treated with immunotherapy.

Keywords: HIV; HIV latency; HIV reservoir; PD-1; cancer disparities; glioblastoma; human immunodeficiency virus; immunotherapy; pembrolizumab; programmed cell death 1 inhibitor.

Plain language summary

Persons living with human immunodeficiency virus (PLWH) are at increased risk for cancers, including glioblastoma. Despite extensive research, both human immunodeficiency virus (HIV) and glioblastoma are incurable. The optimal treatment for concurrent HIV and glioblastoma is unknown. Early evidence suggests that immunotherapy can deplete residual HIV and restore immune function. We present a case of glioblastoma in a PLWH treated with immunotherapy. Treatment was well tolerated and safe. To our knowledge, this is the first reported case of a PLWH and glioblastoma treated with immunotherapy.

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