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IMMU-27. LONG TERM STABILIZATION OF RECURRENT HIGH-GRADE GLIOMA WITH PD-1 INHIBITOR PEMBROLIZUMAB IN TWO CASES

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INTRODUCTION: Despite PD-1 inhibition having success in many cancers, it has uncertain effects in brain tumors. We report two cases of recurrent high-grade gliomas that have remained stable for over one year since starting pembrolizumab. CASE REPORTS: Case 1: A 59-year-old male was diagnosed with glioblastoma (GBM) without MGMT methylation or IDH mutation in late 2018 after surgery. He received radiation and temozolomide (TMZ) followed by adjuvant TMZ before tumor progression. He underwent second tumor debulking with recurrent GBM on pathology with negative PD-L1 expression. He started carboplatin. Progression was noticed after 7 to 8 cycles. Pembrolizumab was added. Tumor was stabilized. Carboplatin was completed after total 12 cycles and the patient has continued single agent of pembrolizumab for more than one year with stable brain MRIs. The patient has survived for 24 months since recurrence and 30 months since diagnosis. Case 2: A 53-year-old male had a brain tumor discovered on MRI in 2012 and received no treatment until resection in 2014. In 2016, he underwent second tumor debulking and was diagnosed with anaplastic oligodendroglioma with negative PD-L1 expression. He received radiation followed by PCV regimen. 17 months since diagnosis, he had first tumor progression on PCV. TMZ was started. 22 months since diagnosis, bevacizumab was initiated due to further growth. 33 months since diagnosis, pembrolizumab was added due to new lesions after 12-months of bevacizumab therapy. His tumor was stabilized. Bevacizumab was eventually discontinued. He has continued single agent pembrolizumab for 6 months so far. His tumor has been stable for 22 months since starting pembrolizumab. Survival has been 38 months from first recurrence and 7 years since tissue diagnosis. DISCUSSION: These cases demonstrate the potential effects of anti-PD-1 immunotherapy in stabilizing recurrent high-grade glioma with combination of other treatment agents followed by single agent as maintenance therapy.