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Letter to the editor from Pant *et al*

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Dear Editor:

In the previously published work 'Phase 2 study of pembrolizumab in patients with advanced rare cancers', we published in this journal by Naing *et al*,[1] the checkpoint inhibitor pembrolizumab was evaluated in advanced rare cancers. Herein, we present the extraordinary longer-term result of a patient with primary orbital squamous carcinoma.

Immune checkpoint inhibitors have changed the landscape of cancer therapy. Squamous cell cancer of the orbit is an exceedingly rare tumor with very few cases reported in the literature.[2]

A man in his early 60s with a history of hypertension, hyperlipidemia, benign prostatic hypertrophy, and gastroesophageal reflux disease presented to his ophthalmologist for blurred vision. Orbital MRI identified a left orbital mass. He was treated with antibiotics and steroids for an infection or inflammation without symptom resolution. He underwent partial transcranial resection on account of tumor proximity to the optic nerve. The pathology showed a poorly differentiated carcinoma with extensive perineural invasion. He then underwent external beam radiation therapy to the tumor site in 58 fractions for a total dose of 6960c Gy.

Positron Emission Tomography (PET) scan 3 months post radiation demonstrated a metabolically active left orbital mass, not significantly changed from the PET scan prior to radiation therapy. He then presented to our center for a second opinion. Pathology review confirmed poorly differentiated carcinoma with tumor cells positive for p63 and keratin and negative for TTF1, PSA, and S100. Examination by ophthalmology revealed cranial nerves 3, 4, 5, 6, and 7 palsies, blindness in left eye and no pupillary response, and no extraocular movement. Restaging PET-CT scans showed left orbital mass without distant metastasis. MRI of the orbit demonstrated infiltrative enhancing lesion involving dorsal aspect of the left orbit with extension along the left optic nerve and along the superior aspect of the orbit into the extraconal space along the superior rectus muscle. The patient was felt not to be a candidate for further surgery or radiation therapy. Chemotherapy with carboplatin and paclitaxel or clinical trial was recommended.

The patient was enrolled onto NCT02721732 with pembrolizumab administered intravenously every 21 days.[1]

Over the course of treatment, he experienced a decrease in tumor volume with a 73% decrease in tumor. His treatment course was complicated by grade 2 rash. After 2 years of therapy, he was placed on observation and currently remains free of progressive disease 52 months after initiation of therapy.

Primary squamous cell cancer of the orbit is a rare malignancy with no standard of care. Previous case reports have used traditional strategies effective in squamous head and neck cancers including multimodality treatment with surgery, radiation, and/or cytotoxic chemotherapy. Prior reports have used platinum-based chemotherapy in the adjuvant setting along with radiation as well as response to epidermal growth factor receptor targeting agents (erlotinib and cetuximab) in advanced or metastatic cases.[3] Pembrolizumab has been approved in squamous carcinomas of the lung, skin,[4] and head and neck[5] providing rationale for use in rare cancers with squamous histology of any primary site.

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