Bilateral Facial Palsy following Ipilimumab Infusion for Melanoma

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Case Report

A 32-year-old man with metastatic melanoma underwent excision of a right temple melanoma. The melanoma metastasized to the parotid gland, and he underwent a right parotidectomy and single-lymph node excision 8 months later. Two months after parotidectomy, ipilimumab therapy was initiated (3 mg/kg, every 3 weeks for 3 total doses).

Two weeks after the second ipilimumab infusion, he developed acute left-sided facial weakness. The patient denied pain and numbness, and sensation was fully intact. There was no evidence of neuropathy otherwise. Prednisone, 80 mg, was started with some initial response. After a third ipilimumab infusion, when the facial palsy worsened on the left and began involving the right, prednisone was increased to 100 mg, and ipilimumab was stopped. Two months after the first onset of facial weakness, the patient presented to our clinic. At this time, facial function was House-Brackmann grade V on the left and grade VI (complete) on the right. Audiometry was normal bilaterally, and magnetic resonance imaging results were unremarkable, with no evidence of metastasis or enhancement of cranial nerve VII or VIII. Lyme disease titers were negative. The patient has not since followed up in clinic.

Per phone interview 6 months later, function was 90% improved on the left and 50% on the right. The patient is now able to close his eyes bilaterally.

Discussion

Neuropathy is a known adverse effect of ipilimumab. Although no other cases of facial nerve palsy have been reported, 1 case described a patient with both peripheral nerve and cranial nerve III neuropathy, including distal extremity weakness and ptosis, who recovered fully with prednisone and by discontinuing the infusion. Other reported neuropathies include bilateral phrenic nerve paralysis and sensory neuropathy.

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Ipilimumab was the likely cause of facial palsy, on the basis of negative workup of other causes and the tight temporal relationship between symptoms and preceding infusions. The differential diagnosis included metastases to the facial nerve root and Lyme disease neuropathy; however, laboratory testing and imaging ruled these causes out. Although ipilimumab-induced facial palsy could be diagnosed only by exclusion, the temporal profile of this facial neuropathy was similar to other reports of ipilimumab-induced neuropathy. Consistent with our patient’s presentation, several other cases have reported neuropathy following several months of ipilimumab therapy and a cumulative dose of 30 mg/kg. This neuropathy is likely immune mediated and dose dependent. Prednisone has reported success in treating other cases of ipilimumab-induced neuropathy, further suggesting an immune-mediated or inflammatory etiology.

In conclusion, we have described a case of bilateral facial nerve palsy related to ipilimumab infusion. With the recent explosion of targeted immunochemotherapeutics, it is important to recognize that despite their specific mechanisms of action, rare but severe side effects are still possible.

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Author Contributions

Ashley L. Altman, literature search, acquisition of data for the work, drafting the work, revising it critically, final approval of the version to be published, agrees to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; Myles L. Pensak, acquisition of data for the work, drafting the work, revising it critically, final approval of the version to be published, agrees to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; Ravi N. Samy, acquisition of data for the work, drafting the work, revising it critically, final approval of the version to be published, agrees to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Disclosures

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