Successful Treatment of Tolosa-Hunt Syndrome after a Single Infusion of Infliximab

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Dear Editor,

We describe a 25-year-old man who presented with a 6-month history of persistent, daily, severe, retro-orbital and left-sided hemicranial headache that was associated with persistent numbness of the left forehead and decreased pinprick sensation over that region. He exhibited partial left-third nerve palsy expressed as partial ptosis of the left eye, weakness of the left inferior oblique and medial rectus, and diplopia on right lateral gaze. There was no proptosis, and a fundus examination produced normal findings. He had a normal pupillary reflex. The other findings of the neurological examination were normal.

MRI of the brain and orbits revealed a discrete abnormally enhanced signal in the left cavernous sinus. The findings of blood and CSF studies were normal, including for erythrocyte sedimentation rate, CRP, and angiotensin-converting enzyme. His chest X-ray was normal. The lesion was too small to perform a biopsy. The diagnosis of Tolosa-Hunt syndrome (THS) was based on the unilateral headache, preceding paresis of the ipsilateral cranial nerves, granulomatous enhanced lesion in the cavernous sinus on MRI imaging, and absence of other clinical or radiographic signs or symptoms fulfilling the International Classification of Headache Disorders.

The patient was started on prednisone at 60 mg daily, which controlled his symptoms. However, reducing the dose to below 50 mg resulted in the immediate recurrence of headache and diplopia. The patient was therefore maintained on 50 mg daily, but developed cushingoid features, acne, leg edema, and hyperglycemia. Tapering the dose by 10 mg per month resulted in symptom relapse after the second or third month. The patient was then infused with 300 mg of infliximab over 2 hours. The pain subsided the following day followed by resolution of the ophthalmoplegia. The numbness in the forehead decreased but did not subside completely. It was possible to taper the steroids completely without any relapse of his symptoms even at an 8-month follow-up. The patient did not experience any side effects of infliximab, and was asymptomatic on follow-up without requiring another dose.

THS is an idiopathic disorder characterized by subacute, severe, persistent, orbital and retro-orbital pain together with ophthalmoplegia. It is associated with the presence of granulation tissue in the anterior cavernous sinus or superior orbital fissure. It usually responds to steroid therapy with good control of the symptoms.¹ Nevertheless, there are occasional cases of THS that do not respond adequately to steroids or that require prolonged, high-dose treatment that produces serious side effects. Other therapies that have been applied to control this condition include methotrexate, mycophenylate mofetil, and radiotherapy, but these interventions also have side effects.²⁻⁴

Infliximab is a tumor necrosis factor-alpha antibody that induces proinflammatory cytokines and acute-phase reactants, enhances leukocyte migration, and activates neutrophils and eosinophils. It is used to treat inflammatory conditions including orbital inflammatory diseases, and was reported to successfully control the symptoms in a patient with THS resis-

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tant to steroid therapy.⁵ It is administered intravenously at a dose of 3–5 mg/kg per infusion.⁵

In rare conditions infliximab can cause mild headache and fatigue, low-grade fever, myalgia, arthralgia, abdominal pain, and slight elevations in liver-function tests.

The dramatic and persistent improvement in the symptoms in the present case along with the patient being able to stop steroids completely raises the issue of whether infliximab should be added early when treating patients with steroid-resistant THS. Furthermore, our patient required only a single infusion to control his symptoms even with a prolonged follow-up, in contrast to the first case reported who received four infusions, which suggests that a controlled study should be performed to standardize the use of infliximab in THS, rather than copying the regimen used in other inflammatory disorders.

Conflicts of Interest

The authors have no financial conflicts of interest.

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