Leprous Polyneuritis Cranialis Mimicking Orbital Apex Syndrome

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Abstract

Leprosy is one of the most prevalent infections in India, with our country accounting for almost 60 percent of the world’s patients. Hence unusual presentations of leprosy should be sought for and treated at the earliest. We report this rare case of polyneuritis cranialis secondary to leprosy. Affection of a single cranial nerve has been described previously but there is only one report of leprosy presenting like orbital apex syndrome.

Case Report

A 45 year old male patient, known case of diabetes mellitus, hypertension and ischemic heart disease on treatment since 3-4 yrs, presented with complaints of restriction of movements of the left eye with swelling of that eye since 4 months and with diminution of vision in the right eye since 2 weeks. Patient complained of decreased sensations on the left side of face since 2 weeks. He also complained of diplopia and vertigo since 2 weeks. There was no history of fever, vomiting, altered sensorium, any other focal neurological deficits or any bladder-bowel signs.

Patient was conscious and oriented. There was complete ophthalmoplegia of the left eye with involvement of 3rd, 4th and 6th cranial nerves (Figure 1). Also there were decreased sensations in the distribution of the ophthalmic and maxillary branches of left trigeminal nerve. Patient had an ill sustained nystagmus in the right eye with fast component to the right, present only on right sided gaze. Vision was diminished in the right eye, being restricted only to perception of light, with slight diminution of vision in left eye. Hence after clinical evaluation our differentials were orbital apex syndrome and cavernous sinus thrombosis. The Ulnar nerve and greater auricular nerve were thickened on the right side and there was a hypoaesthetic patch on the left elbow (Figure 2).

A CT Brain with PNS and orbit done by an ENT surgeon (prior to admission to our hospital) revealed mild proptosis of the Left eye and mild mucosal thickening in the right maxillary sinus. MRI Brain and orbit with Venogram was done which showed diffuse thickening and enhancement of bilateral periorbital region, bilateral premaxillary region, floor of anterior portion of nasal cavity and along nasal septum and cavity with thickened infraorbital and supraorbital nerves on both sides (Figure 3). The right optic nerve was small with diffuse hyperintense signal on T2WI and STIR imaging s/o optic atrophy. An inflammatory or infective lesion was to be considered in the differential diagnosis for these MRI findings.

In view of thickened nerves seen on MRI, we considered a few differentials which included Neurofibromatosis and Hansen’s disease. Meanwhile, a biopsy from the hypoaesthetic patch on the left elbow confirmed Borderline Tuberculoid Hansen’s disease.

Patient was started on once a month Rifampicin 600 mg, Ofloxacin 400 mg, Minocycline 200 mg with daily Clofazimine 50 mg and Dapsone 100 mg. Patient developed a Type 2 Lepra reaction after 3 days of the medications and was subsequently started on T. Prednisolone 40mg od. Patient was discharged and on follow after 15

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days of therapy patient had significant improvement in symptoms with return of all extraocular movements on the left eye with vision returning back to normal in left eye and also perception of hand movements from the right eye and decreased vertigo (Figure 4). Subsequently the steroid was tapered over the next two months and patient continued to take medications for Leprosy.

**Discussion**

Mononeuritis, mononeuritis multiplex and symmetrical polyneuropathy have been described in leprosy. Cranial nerve palsies generally occur along with any of the above three types of peripheral neuropathy and rarely may also be an isolated feature.

There are multiple studies on cranial neuropathies in Leprosy. In a study of leprosy patients by Kumar et al, 9 out of 51 patients had cranial nerve involvement; the most commonly affected nerves being facial and trigeminal. 5 out of these 9 patients had lepromatous form of disease and one had pure neuritic form of leprosy.

Cranial nerve involvement most commonly occurs in the age group between 20-50 years and is seen more commonly in males as compared to females in a ratio of almost 3-4:1. There is no difference in patients of paucibacillary or multibacillary leprosy in terms of cranial nerve involvement. Facial nerve is the most commonly affected, with facial patches and type I lepra reaction commonly associated with it.

There have been studies on vestibulocochlear nerve function in leprosy, which have shown that though only few patients complain of hearing difficulty, upto...
40% patients have objective hearing loss on testing. Also studies exploring taste sensation have shown that up to 8% patients of leprosy have loss of taste sensations.

There are case reports of lower cranial nerve involvement in leprosy with 9th, 10th and 12th nerves involved. There are reports of multiple cranial nerve involvement with 5th, 6th, 7th and 8th cranial nerves all involved.

El Beltagi et al described a case of lepromatous leprosy in an 84 yr old man presenting with features of Orbital Apex syndrome. No other similar case reports of involvement of the nerves supplying extraocular muscles by leprosy, mimicking orbital apex syndrome or cavernous sinus thrombosis have been made.

In summary, cranial neuropathy is uncommon in leprosy. Hence it is essential to look for cranial nerves in any case of leprosy and also to not miss unusual presentations of the same.

This case illustrates that Leprosy can mimic Orbital Apex syndrome or Cavernous sinus thrombosis.

References