

Bilateral Facial Palsy in Neuroborreliosis

Sir,

Bilateral facial nerve palsy (FNP) is an uncommon entity (incidence of 1 per 5,000,000) accounting for 0.3%–2% of all facial palsies. Simultaneous bilateral FNP (involving both the sides within 4 week period) commonly shares a myriad of serious etiological correlation, of which infection, metabolic, neoplastic, autoimmune diseases, and multiple sclerosis are often considered as commoner association, making it an ominous sign necessitating thorough evaluation.^[1,2] We encountered two cases of Lyme disease with bilateral FNP from eastern India.

A 27-year-old male initially presented elsewhere with acute onset, painless left lower motor neuron (LMN) FNP manifested in the form of food getting stuck in the left vestibule of the mouth, drooling of saliva from left angle of mouth, facial deviation to the right on attempted smile along with visible rolling of eyeballs upward on attempted closure of the left eye. He was put on steroids without significant improvement; 27 days later, he developed right LMN FNP and presented to us [Figure 1]. Another 25-year-old male, presented to our care after 2 weeks of acute onset, painless bilateral LMN FNP, both sides having simultaneous onset.

Both the patients had no other cranial nerve, motor, sensory, autonomic symptoms. No other systemic symptoms, comorbidities, or recent travel. No skin lesions were seen. Neurological examination showed bilateral LMN FNP along with loss of taste sensation in the anterior two-thirds of tongue, with normal cognition, no meningeal, other cranial nerve, motor, sensory, or autonomic involvement. Deep tendon reflexes were 2+ in all four limbs.

Complete blood count, metabolic parameters, chest radiography, serum angiotensin-converting enzyme levels, and nerve conduction study were normal. HIV antibody and venereal



Figure 1: Patient on attempted smiling with bilateral facial palsy

disease research laboratory testing were negative. Magnetic resonance imaging of brain revealed no significant abnormality. Cerebrospinal fluid analysis was normal in the first case (C1), and showed lymphocytic pleocytosis (cell-45/ μ L, 90% mononuclear, Protein-58 mg/dL) in the second case (C2). Borrelia IgM (EIA) was positive in high titres, IgG (EIA) was negative in C1, while both were positive in high titres in C2. Confirmation with western blot could not be done due to logistic implications.

Both our patients received oral doxycycline for 21 days and showed complete recovery within a month without any new onset neuro deficit.

India is not known to be endemic for Lyme and has no systemic data. However, recently high seroprevalence of 19.9% and 13% was documented in population-at-risk from southern and northern India, respectively, casting doubts on its rarity in India.^[3] The eight reported cases of neuroborreliosis are largely from north India. Meningitis occurred in five of them including one case with hypoglycorrhachic chronic meningitis, and was the commonest presentation. Neuroretinitis occurred in two, while one had meningoencephalitis. Only one of the eight cases had unilateral LMN FNP as a part of craniospinal meningitis. The fact that six of the cases did not have any other system involvement and none reporting erythema chronicum migrans highlights the importance of high index of suspicion in the absence of usual manifestations while diagnosing neuroborreliosis.^[3-5]

Neurological manifestations are seen in up to 15% of patients with untreated borreliosis. It occurs mostly in early, disseminated infection and can affect all parts of neuro-axis. The classical triad includes meningitis, cranial neuritis, and radiculoneuritis. Cranial meningoradiculitis is commoner in younger population, and a painful spinal meningoradiculitis in elderly.^[6-9]

FNP accounts for three-quarters of Lyme associated cranial neuropathy. It could be related to direct invasion by spirochete or damage related to indirect immune mechanism. Although it has an excellent prognosis, there is marked paresis at onset. Bilateral involvement commonly develops consecutively within a median interval of 3 days, often has an excessively higher incidence of associated clinical meningoencephalitis, and has a greater incidence of mild dysfunction and late recovery following treatment. However, one of our cases had developed contralateral FNP nearly 4 weeks later, none had associated meningoencephalitis, and both had recovered completely. Although common in endemic areas, bilateral FNP in Lyme has never been reported from India, while sequential involvement of bilateral FNP as presenting manifestation is unheard of globally.^[6-10]

Lyme disease as previously thought may not be so uncommon in India. This case report highlights the importance to consider Lyme in the light of corroborative clinical scenario, which can greatly aid in timely treatment and thus prevent long-term complications.

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Conflicts of interest

There are no conflicts of interest.

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