A Clinical and Radiological Follow-up of "Rare Case of Possible Vacuolar Degeneration of Leprosy in the Brain with Segmental Necrotizing Granulomatous Neuritis and Horner's Syndrome"

Dear Sir,

With respect to our case report titled "A rare case of possible vacuolar degeneration of leprosy in the brain with segmental necrotizing granulomatous neuritis (SNGN) and Horner's syndrome" published in Indian Dermatology Online Journal Volume 10 Issue 4 July-August 2019, we wish to update our esteemed readers about the present status of the patient. The case was initially reported for rare association of partial Horner's syndrome (ptosis, lid lag, and miosis) with vacuolar degeneration of pontomedullary junction of the brain and SNGN of the greater auricular nerve (right) in a 23-years-old male patient of Hansen's disease borderline tuberculoid (BT) with bacteriological index (BI) of 0.

Despite adequate 09 months of first-line multidrug therapy (multibacillary) [MDT (MB)] and repeated tapering doses of prednisolone, he showed minimal improvement with repeated type 1 reaction and persistence of Horner's syndrome [Figure 1a]. Subsequently, he was shifted to modified MDT with oral minocycline 100 mg once a day, ofloxacin 400 mg once a day, and clofazimine 50 mg once a day. The patient gradually responded to modified MDT and both the reaction and the partial Horner's syndrome resolved. In addition, thickened nerves over the face and neck (initially grade 3 thickened) returned to normal sizes [Figure 1b]. At the end of 6 months, ofloxacin was stopped, and he was continued on oral minocycline and clofazimine. Magnetic resonance imaging (MRI) done before starting modified MDT revealed a T2 hyperintense lesion on the dorsal aspect of left pontomedullary junction measuring 6.6 × 8.0 × 8.7 mm with no post-contrast enhancement, suggestive of vacuolar degeneration of leprosy [Figure 2a]. Interestingly, repeat MRI of the brain after 1 year of modified MDT showed complete resolution of the previous hyperintense lesion of the left pontomedullary junction of the brain along with the resolution of Horner's syndrome as mentioned earlier [Figure 2b].

Minocycline-based regimen was preferred in our patient due to its neuroprotective effect. It has shown efficacy in improvement of nerve function impairment (NFI) in corticosteroid unresponsive leprosy patients, neuroprotective properties in animal models of the central nervous system (CNS) and spinal cord injuries, neurodegenerative diseases including Parkinson's disease, multiple sclerosis, and stroke.[1-3] It is a lipophilic drug with greater bioavailability in the skin and nervous system tissue. It has antibacterial, antiapoptotic, and immunomodulatory properties. Its anti-inflammatory ability inhibits protein and collagen degradation and angiogenesis, perhaps explaining its efficacy in neural degeneration.[4]

With existing resources, it is not feasible to directly link CNS lesion and Horner's syndrome with leprosy in this patient. However, retrospectively it indicates a possible

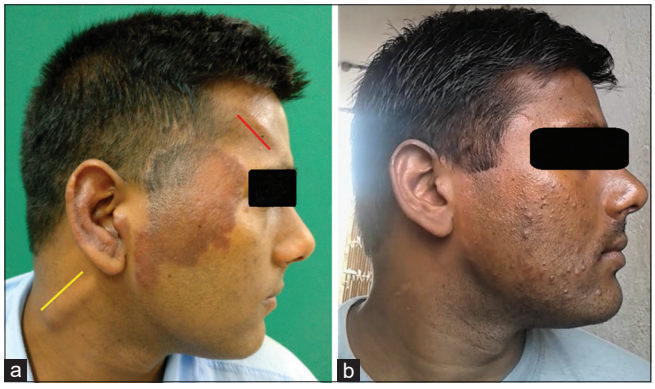

Figure 1: (a) Malar region (Rt) and ear showing well-defined erythematous edematous plaque, Grade 3 thickened (Rt) supraorbital (red line), and greater auricular nerve (yellow line). (b) Visible resolution of the erythema and oedema over the facial patch. The thickening of (Rt) supraorbital and greater auricular nerve has visibly resolved

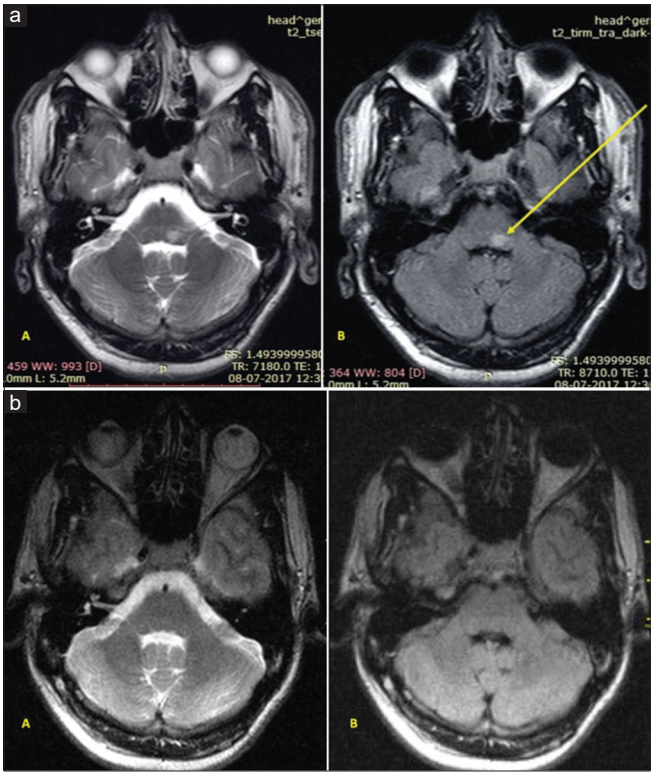

Figure 2: (a) MRI of the brain Axial T2 and FLAIR images showing a focal hyperintense lesion in the dorsal aspect of left pontomedullary junction (yellow arrow). (b) Repeat MRI of the brain Axial T2 and FLAIR image showing complete resolution of the previous lesion

association of the CNS involvement and Horner's syndrome with Hansen's disease, owing to complete resolution of MRI findings and Horner's syndrome with modified MDT. A recent study has reported MRI abnormalities in the brain and spinal cord and lesions in nerve roots and plexus in leprosy patients where four out of eight patients showed clearance of CNS lesions after starting MDT similar to our index case.[5] Further studies are required in this aspect of CNS involvement in Hansen's disease. Moreover, regimens with minocycline could be explored additionally in patients with NFI in corticosteroid unresponsive leprosy patients for its possible neuroprotective role.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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