

Linear Trigeminal Pontine Lesion in Multiple Sclerosis-related Trigeminal Neuropathy

A 31-year-old man presented with ten days of numbness in his left tongue and lips as if he just had dental anesthesia. The numbness subsequently extended to the left cheek and chin. There were no associated pain, weakness, or any other neurological symptoms. Nine months previously, he had been admitted for short transverse myelitis at the C2 level, which was his first clinical event [Figure 1]. On examination, facial sensation was intact to pinprick, light touch, and vibration. Brain magnetic resonance imaging (MRI) revealed a linear hyperintense lesion in the left pontine trigeminal root entry zone (REZ) with gadolinium enhancement [Figure 2]. Immunologic serum markers

including anti-aquaporin-4 antibody and cerebrospinal fluid analysis were normal. We diagnosed him with clinically definite relapsing-remitting multiple sclerosis (MS) based on the McDonald criteria.^[1] He was treated with five days of intravenous methylprednisolone (1g/day) and was then started subcutaneous interferon beta-1b to prevent further attacks. Two weeks later, his symptoms were almost improved. In MS, the trigeminal REZ lesion can appear to be either symptomatic or asymptomatic.^[2,3] In symptomatic cases, clinical phenotypes are diverse, ranging from trigeminal neuralgia, which is characterized by facial pain, to trigeminal neuropathy, which is characterized by facial numbness.^[4,5] Pontine trigeminal REZ lesion can also be seen in pontine infarction.^[6] Distinguishing MS from pontine infarction in patients with trigeminal REZ lesion is difficult by imaging features alone and must be considered together with clinical findings. MS usually has a trigeminal REZ lesion with a linear appearance and no other ischemic lesions on MRI.^[7] On the other hand, the trigeminal REZ lesion in the pontine infarction is not only linear but also wedge-shaped, and its size is relatively larger than that of MS. In addition, pontine infarction is relatively older at symptom onset and has more history of vascular risk factors than MS.^[7] Although the pontine trigeminal REZ lesion is not specific to MS, it may provide further clues to the diagnosis of MS when combined with other MS typical clinical events.

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Conflicts of interest

There are no conflicts of interest.

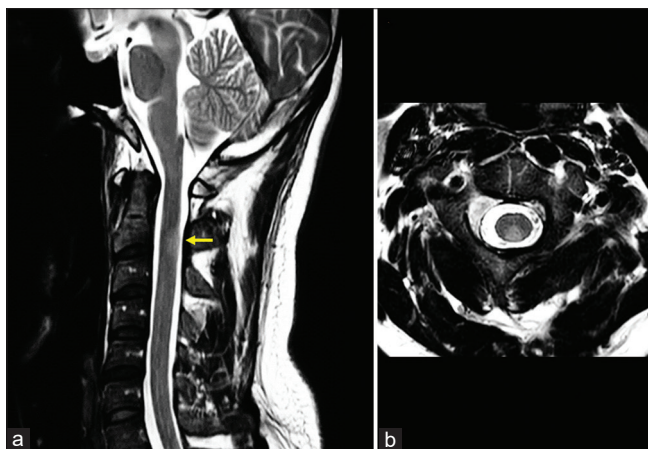


Figure 1: Spinal MRI. (a) Sagittal T2-weighted image shows a short T2 hyperintense lesion at the C2 level (arrow). (b) Axial T2-weighted image shows partial cord involvement, with a triangular lesion involving the dorsal columns



Figure 2: Brain MRI. (a) Axial T2-weighted and (b) fluid-attenuated inversion recovery images show a linear hyperintense lesion in the left pontine trigeminal root entry zone. (c) The lesion is enhanced in axial T1-weighted gadolinium-enhanced image

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