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Cervical Myelitis Mimicking Intractable Occipital Neuralgia

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Dear Editor,

Occipital neuralgia, which usually develops as a result of occipital nerve pathology, has a typical cutaneous pain distribution and a good response to peripheral nerve blockade.¹ However, occipital neuralgia-like pain can sometimes be elicited by unusual structural abnormalities.² A case of myelitis at the C2 level mimicking occipital neuralgia is described herein. A previously healthy woman aged 41 years experienced persistent electric-shock-like pain for 40 days before admission. The pain originated in the posteroinferior area of the right ear and then radiated to the right vertex area. Her symptoms were mild at first, but the severity abruptly increased 7 days after onset. The headache presented as a severe jabbing pain that was strictly unilateral and lasted for 3–4 hours, occurring about three times per day. The pain was scored at 8 on a visual analog scale ranging from 0 to 10. There were no autonomic features or skin lesions. Definitive triggering factors were not found. The pain was intractable to both medical treatment and occipital nerve block. Pain was the only symptom, and there were no other abnormal neurologic signs in any body part, including gait difficulty, voiding difficulty, sensory change, or motor weakness. Magnetic resonance imaging of the cervical spinal cord revealed a high signal lesion on the upper cervical spinal cord extending from levels C1 to C2 on T2-weighted images. The lesion was well enhanced by gadolinium and located in the right posterolateral area, involving the dorsal nerve root entry zone

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(Fig. 1). Cerebrospinal fluid analysis and the IgG index appeared to be normal, and an oligoclonal band was not detected. Tests of serum fluorescent antinuclear antibody, antineutrophil cytoplasmic antibody, lupus anticoagulant, human immunodeficiency virus serology, syphilis screening, segmentation rate, and vitamin B12 level yielded normal results. The patient's pain improved dramatically after intravenous injection of a high dose steroid. Given the location of the lesion, the poor response to occipital nerve blockade, and the favorable response to a systemic steroid injection, it can be concluded that cervical myelitis elicited the pain, mimicking occipital neuralgia. The greater occipital nerve arises from the sensory medial branch of the dorsal rami of the C2 spinal nerve, and its terminal branches innervate the region of the C2 dermatome.³ Hence, involvement of the C2 dorsal root can elicit pain with a distribution similar to that of the greater occipital nerve, and is clinically indistinguishable. The patient's poor response to peripheral blockade targeting the greater occipital nerve can be explained by the location of the lesion, since the dorsal root entry zone is proximal to the point of blockade. The relief of the intractable neuralgic pain provided by systemic steroid is further evidence of the relationship between the pain and myelitis. Myelitis can cause occipital neuralgia-like pain, but isolated pain without other symptoms or signs is extremely rare. To the best of our knowledge, only three cases of occipital neuralgic pain related to cervical myelitis have been reported. However, those case reports did not present detailed clinical characteristics, including the response to peripheral blockade and the anatomical relationship between the lesion and the pain.⁴⁻⁶ It is necessary to consider other structural causes when occipital neuralgia does not respond to conventional treatment, including occipital nerve blockade.

Conflicts of Interest

The authors have no financial conflicts of interest.

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Fig. 1. A and B: The T2 weighted MRIs show a high signal intensity lesion at C2 level. C and D: The lesion with gadolinium enhancement is located in postero-lateral area of right spinal cord involving entry zone of dorsal root.

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