A single ultrasound-guided acupuncture session for abnormal fascia improved chronic mandibular numbness for 6 years after orthodontic surgery: a case report

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[Background] The development mechanism of pain after orthodontic treatment is still unclear, and there are no adequately established methods for its management. We report a patient with chronic numbness after orthodontic treatment who responded to ultrasound (US)-guided fascia release dry needling (DN).

[Patient] The patient was a 42-year-old male with nothing of note in his past history. His chief complaint was “mandibular numbness” developing immediately after orthodontic surgery using vertical ramus osteotomy performed about 6 years earlier. The numbness extended to the entire face for the 6-year period. MRI of the head and blood analysis in the general hospital showed no abnormalities. There was no interference in activity of daily living. He was aware that his personality had become introverted since the surgery, but did not fulfill the criteria for depression. His symptoms did not improve after oral or local treatment by dentists and physicians. When he visited our acupuncture clinic, limitation of mouth opening (dental arch width, 3 cm) and aggravation of pain during mouth opening were observed, although there were no neurological abnormalities. At the bone margin 1 cm anterior to the mandibular angle, there was remarkable tenderness (Visual Analog scale, VAS 80/100) and a stripe-shaped high echoic lesion of the fascia on US images (Figure 1a). At this site, US-guided fascia release DN was performed only one time. Immediately after the treatment, the local tenderness disappeared (VAS 0/100), and the intensity of the high echoic lesion decreased (Figure 1b), resulting in improvement of mouth opening (dental arch width, 5 cm). In addition, his facial expression was improved.

[Discussion] The main cause of the pain in this patient was considered to be abnormal fascia in the surgical wound 1 cm anterior to the mandibular angle after vertical ramus osteotomy. On US images, abnormalities of the fascia were reported to be visualized as stripe-shaped high echoic lesions on the fascia in Japan (Reference 1). Palpation and US evaluation may facilitate the identification of abnormal fascia and effective local treatment.

![Figure 1](image)

(a) Before dry needling treatment
(b) After dry needling treatment

White arrows (△) mean abnormal fascia, as stripe-shaped high echoic lesion of the fascia
Reference