Pulsed radiofrequency of the supraorbital nerve for the treatment of supraorbital neuralgia

Sir,

Supraorbital neuralgia is an uncommon disorder characterized by unilateral pain involving the supraorbital region and forehead in the distribution of the supraorbital nerve. Although supraorbital neuralgia is a rare disorder, it is the most common extracranial neuralgia among the terminal branches of the trigeminal nerve. Pain is typically described as continuous or intermittent with or without short episodes of sharp exacerbations. According to the International Headache Society, supraorbital neuralgia can be diagnosed by the presence of the following three criteria: (1) pain in the distribution of the supraorbital nerve, (2) tenderness to palpation of the nerve, and (3) temporary resolution of pain with supraorbital nerve block.

The diagnosis of supraorbital neuralgia can be difficult to make, due in large part to the rarity of this disease. The treatment of supraorbital neuralgia poses a challenge due to its refractoriness to conservative management. Pharmacological management with medications such as indomethacin or carbamazepine tends to be ineffective or minimally effective. Interestingly, the refractory nature of this condition to pharmacological therapy can help distinguish supraorbital neuralgia from other diagnoses in the differential. In particular, hemicrania continua can be ruled out due to its high degree of responsiveness to indomethacin. Other diagnoses to consider include ocular pathology, sinusitis, and malignancy.

We are reporting a 21-year-old woman who presented to our clinic for the treatment of chronic headaches. The patient had been experiencing these headaches since she was a teenager. On initial presentation, she rated her pain as 8–9/10 on visual analog scale (VAS). Her headaches were unilateral, started in the right supraorbital region of her forehead, and radiated to her posterior neck. Pain was associated with nausea and vomiting. There was tenderness to palpation over the supraorbital notch on examination. The patient failed medication management.

We performed a diagnostic and therapeutic right supraorbital nerve block, which resulted in 50% relief of pain lasting approximately 3 weeks. Various options along with their risks and benefits were discussed with the patient for ongoing treatment. The patient elected to proceed with pulsed radiofrequency (PRF) of the right supraorbital nerve. After obtaining written informed consent, the right supraorbital ridge was palpated, and the area prepped with antiseptic solution. A 22-gauge 1.5-inch insulated needle with 5 mm active tip was inserted along the groove and advanced perpendicular until the needle approached the periosteum of the underlying bone. Another 22-gauge 1.5-inch insulated needle with 5 mm active tip was placed next to the first needle. Following placement of the needle, sensory stimulation at 50 Hz was used to confirm reproduction of pain in the area of symptoms. PRF was carried out in pulsed lesion mode after injecting 1 ml of 2% lidocaine. The settings were 45°C and 180 s.

At follow-up, the patient described a 50% reduction in pain. She rated her pain as 4/10 on VAS. In addition, she described her pain as primarily being in her right lateral neck and posterior head with resolution of pain in her forehead. The patient described ongoing relief for more than 6 months following the procedure. The patient received one additional right supraorbital PRF treatment with ongoing relief to date.

The use of PRF and radiofrequency ablation in treating peripheral neuralgias is not well studied. Our case suggests that PRF can be safe and effective in treating supraorbital neuralgia. Larger trials are needed to prove the consistency and success of this procedure in treating peripheral neuralgias in general.

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Conflicts of interest
Dr. Abd-Elayed is a consultant for Innovoll, Axsome, Medtronic, Halyard, SpineLoop and Ultimaxx health.

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Letters to Editor

Sir,

Various problems associated with breathing circuit such as leakage, obstruction or kinking, condensation of water, and oxygen delivery devices have been reported earlier.[1‑4] It is important to have a random check of lifesaving equipment supplied in the hospital. Although the supplied materials fulfill the country’s rules and regulations, as an end user, quality has to be reconfirmed. The angle connector with side port is most commonly used in operation theater for end‑tidal CO\textsubscript{2} monitoring. This is also used in case of critical care areas to avoid repeated arterial sampling for the assessment of carbon dioxide levels. In our case, during a routine inspection, the angle connector of breathing system was normal in appearance externally [Figure 1a], but a plastic projection was found inside the lumen [Figure 1b]. This could be mainly due to the improper manufacturing or lack of quality check. If at all it is used on patient, the problems that may occur are increase in airway resistance and aspiration of the dislodged plastic projection leading to obstruction of airways and collapse of pulmonary segments. Such conditions may lead to life‑threatening complications and are rare to diagnose. Rising competition in pricing of medical equipment may lead to compromised or low‑quality production. As an end user, we should have a high index of suspicion to identify such problems and should make a habit of quality checking of the materials supplied.

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There are no conflicts of interest.

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