

Combination of peripheral nerve stimulator and ultrasound guidance may improve the efficacy of glossopharyngeal nerve block

Dear Editor,

Peripheral nerve stimulator (PNS) is frequently used in combination with ultrasound to increase efficacy of nerve blocks.^[1] We describe first such case for glossopharyngeal neuralgia.

A 35-year-old male patient with glossopharyngeal neuralgia, with minimal relief with oral tablets of pregabalin and amitriptyline, was referred to pain outpatient department for further management. In the block area, after securing an intravenous line and under standard monitoring, ultrasound glossopharyngeal nerve block (UGPNB) was performed, with 1.5 mL 0.25% bupivacaine, which resulted in complete pain relief.^[2] The patient reported 1 week later for repeat block with numerical pain rating score of 5/10. This time, UGPNB with a PNS was planned.

Under similar precautions as before, scanning with a curvilinear ultrasound probe was done from the base of neck to identify carotid artery and scanned upwards to identify internal carotid artery (ICA) at submandibular region. Electrical stimulation needle 50 mm (SonoPlex, Pajunk ®) was inserted in in-plane trajectory toward posterior part of ICA at submandibular

region. When external laryngeal movement was seen in the patient with no tongue movement at current of 0.5 mA, 1.5 mL of 0.25% ropivacaine with 40 mg of triamcinolone was injected. The patient was pain free for more than 2 weeks [Figure 1].

Glossopharyngeal nerve, a small nerve, is not visualized on ultrasound. Anatomically, it lies lateral to ICA at the submandibular region. Previously, ultrasound drug deposition at this location resulted in pain relief.^[2,3] Sensory stimulation has also been used earlier to locate glossopharyngeal nerve^[4,5]; however, radiofrequency machine may not always be available at all locations. In such patients, PNS can be used to locate glossopharyngeal nerve by external laryngeal movement due to stimulation of stylopharyngeus muscle, the only motor component of glossopharyngeal nerve. Use of ultrasound can increase the efficacy. Exclusion of vagus nerve stimulation is done by excluding tongue movement.

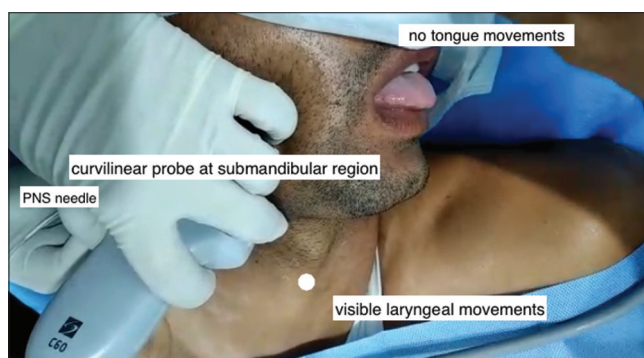


Figure 1: Visible external laryngeal movements with no tongue movements with PNS

Thus, combination of PNS with ultrasound may improve the efficacy for treatment of glossopharyngeal neuralgia. Further randomized studies are recommended.

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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Conflicts of interest

There are no conflicts of interest.

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