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## Superficial cervical plexus block for urgent tracheostomy

Sir,

Here, we are reporting a 64-year-old Indian male patient who presented with biphasic stridor due to carcinoma larynx. He had undergone radiotherapy in the past. He did not have any other co-morbid illness. Written informed consent was taken. His saturation was 97% on room air, heart rate was 124/min and blood pressure was 180/100. Humidified oxygen was given via nasal prongs at 4 l/min. Ringer lactate was started intravenously. Patient was premedicated with 0.5 mg midazolam and 8 mg dexamethasone and 30 mcg fentanyl intravenously. With anticipated difficulty of the procedure, we have done the procedure under bilateral superficial cervical plexus block, along with a trans-tracheal block. Bilateral superficial cervical plexus block using landmark technique was given with 2% lignocaine 7 ml on each side. Trans-tracheal block was given with 1 ml 4% lignocaine. Heart rate, blood pressure and SpO<sub>2</sub> were monitored. Vitals remained stable with good surgical

field. Tracheostomy tube was placed safely with good tube tolerance postoperatively.

Stridor is a high-pitched sound produced during breathing due to turbulence of air flow because of obstruction. It can be inspiratory, expiratory, or biphasic according to the site of obstruction. While waiting for tracheostomy, management of stridor includes administration of humidified oxygen, intravenous dexamethasone, inhaled salbutamol and nebulised adrenaline 1 in 1000.<sup>[1]</sup> Treatment of the cause of stridor is of primary importance after maintaining the airway. Tracheostomy is indicated in carcinoma larynx patient with stridor for maintaining the airway.

Superficial cervical plexus block is a subcutaneous blockade of nerves of anterolateral neck. Sensory distribution of superficial and deep cervical plexus block is similar but superficial cervical plexus block has lesser complications; hence, it is preferred. Complications associated with deep cervical plexus block are nerve root injury, vertebral arterial puncture, systemic toxicity and neuraxial spread of local anaesthetics.<sup>[2]</sup> Trans-tracheal instillation of local anaesthetic provides anaesthesia of tracheal mucosa below the vocal cords.

The known indications of superficial cervical plexus blocks are carotid endarterectomy,<sup>[3,4]</sup> superficial neck surgeries and excision of cervical lymph nodes. It can be combined with supra-clavicular and infra-clavicular brachial plexus block in shoulder surgery to avoid phrenic nerve injury (which is likely in inter-scalene approach).<sup>[5]</sup>

The four cutaneous branches of cervical plexus emerge from the posterior margin of sternocleidomastoid approximately at its midpoint. All of them are innervated by C2–C4. These cutaneous branches are blocked in superficial cervical plexus block at the midpoint of the posterior margin of sternocleidomastoid in a fan-shaped fashion and vertical and cranio-caudal direction. Usually, large volume of local anaesthetic is used, and spread of local anaesthetic leads to bilateral recurrent laryngeal nerve palsy and airway obstruction, so it should be avoided.<sup>[6]</sup> The ultrasound-guided superficial cervical plexus block needs lesser volume but time consuming in semi-emergency situations such as tracheostomy. Due to urgency of the situation, we preferred to do the block under landmark technique.

A low-dose superficial cervical plexus block with trans-tracheal block is a viable alternative to local infiltration in semi-emergency tracheostomy with anticipated surgical difficulty. It provides excellent pain relief, enhanced tracheostomy tube tolerance, and haemodynamic stability. Surgeons reported operating conditions as excellent. This also helps to minimise sedation, which in the setting of upper airway obstruction is undesirable as it may worsen the obstruction because of loss of tone of muscles.

Conventional local infiltration technique for tracheostomy has less pain relief than superficial cervical plexus block. Superficial cervical plexus block makes the patient more comfortable and co-operative during the procedure. The combination of superficial cervical plexus block with trans-tracheal instillation of local anaesthetic provides easy, safe, quick and excellent analgesia for semi-emergency tracheostomies.

#### 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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