Combining nerve blocks for a case of chest wall and scapular surgery

Sir,

Providing analgesia for patients undergoing chest wall and scapular surgeries is challenging, especially since the scapula has multiple innervations. A 60-year-old man weighing 80 kg, with no comorbidities was admitted with a soft tissue sarcoma of size 11 × 16 × 10 cm arising from the left latissimus dorsi. He was posted for wide local excision of the swelling with partial scapulectomy. The swelling extended from the angle of scapula to the level corresponding to L_1 vertebra. General anaesthesia with a combined interscalene block (ISB), superficial cervical plexus block (CPB) and continuous erector spinae plane (ESP) block were planned. Under standard monitoring, general anaesthesia was induced with propofol 100 mg, and fentanyl 100 μg intravenously (IV), and the trachea was intubated under atracurium 40 mg (IV). All blocks were performed using a high frequency linear transducer probe and using in plane technique. A mixture of 20 ml of 0.5% ropivacaine with dexamethasone 8 mg and a 5 cm, 22 gauge nerve stimulator needle was used for the ISB and CPB. A low ISB was done by placing the probe at the interscalene groove at the level of C_7 vertebra and 10 ml of the drug was deposited. The CPB was performed by directing the needle tip into the plane between the lateral border of sternocleidomastoid and prevertebral fascia and 10 ml of the drug was administered [Figure 1]. Then, the patient was turned lateral making the surgical side non-dependent. The ESP block was performed using an 18 gauge Tuohy's needle with the transducer placed in a parasagittal position at T_3 level. Once the needle tip reached the transverse process, 30 mL of 0.375% ropivacaine was injected slowly and a 20 gauge catheter was threaded in and fixed. An infusion of 0.2% ropivacaine was started at 5 ml/h. There was no tachycardia or hypertension on surgical incision which indicated good analgesia. Patient remained haemodynamically stable and surgery was completed uneventfully. No additional analgesics or opioids were given intraoperatively. On extubation, he was extremely comfortable and breathing well. Postoperative analgesia was managed with injection paracetamol IV, 1 g eighth hourly and continuous ESP block with infusion of 0.2% ropivacaine at 5 ml/h. His numerical rating scale pain scores remained below 3 in the postoperative period and he did not require any additional analgesics. He was able to resume his diet and perform incentive spirometry on the night of surgery which indicated excellent analgesia. He was discharged on the sixth postoperative day.

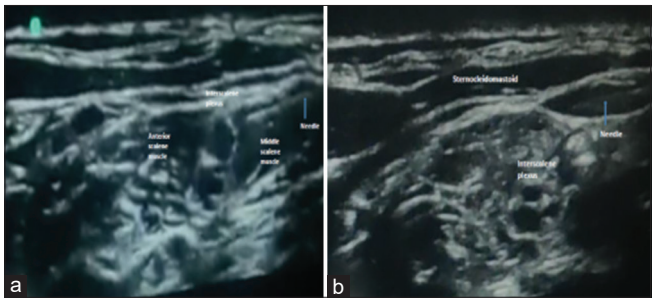

Figure 1: (a) The interscalene brachial plexus block and (b) superficial cervical plexus block

Postoperative analgesia is a key component of perioperative care, since interruption with the respiratory mechanics, especially in thoracic surgeries can lead to increased morbidity. A recent case report describes the anaesthetic management of a scapular surgery with combined interscalene and paravertebral blocks.[1] Fascial plane blocks have been proven to be safer alternatives and adjuncts to traditional techniques like paravertebral and thoracic epidural blocks in thoracic and abdominal surgeries.[2,3] Sonawane *et al.*,[4] have described the anatomy and innervation of scapula in detail. The scapula is innervated by nerves arising from C_6 to T_5 roots. The ISB will block the nerves formed by the C_5–C_7 roots, whereas the CPB will block the supraclavicular nerves. As described by Sonawane *et al.*,[5] the ESP block administered at T_3 level would supplement analgesia for the scapula by blocking the upper thoracic nerves. The lower limit of the tumour resection in our patient extended till the dermatomal level of T_8-T_9. It was shown in a study that 3.6 ml of drug per vertebral level should be given in ESP block to ensure adequate coverage, and hence we considered a large volume bolus in ESP block. This case report demonstrates the infinite opportunities provided by combining regional anaesthetic techniques guided by the appropriate knowledge of the innervation of the clinically relevant anatomical tissue.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

Priyanka Pavithran
Department of Anaesthesiology, Aster Mims, Kozhikode, Kerala, India

Address for correspondence:
Dr. Priyanka Pavithran,
Department of Anaesthesiology, Aster Mims, Kozhikode, Kerala, India.
E-mail: priyanka.pavithran@gmail.com

Submitted: 25-Dec-2021
Revised: 08-Jul-2022
Accepted: 13-Jul-2022
Published: 12-Aug-2022

REFERENCES

1. Ravi R, Srinivasan S, Sivakumar RK, Senthilnathan M. Surgical anaesthesia for scapular surgery in a patient with ipsilateral thoracic injury. Indian J Anaesth 2021;65:630-2.
2. Chin KJ, Versyck B, Pawa A. Ultrasound-guided fascial plane blocks of the chest wall: A state-of-the-art review. Anaesthesia 2021;76(Suppl 1):110-26.
3. Rathi R, Ramekar A, D'souza N. Combination of regional anaesthetic techniques in a Duchenne muscular dystrophy carrier undergoing mastectomy. Indian J Anaesth 2021;65:260-1.
4. Sonawane K, Balavenkatasubramanian J, Dixit H, Tayi H, Goel VK. Regional anesthesia for scapular fracture surgery: An educational review of anatomy and techniques. Reg Anesth Pain Med 2021;46:344-9.
5. De Cassai A, Tonetti T. Local anesthetic spread during erector spinae plane block. J Clin Anesth 2018;48:60-1.

Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/ija.ija_1093_21

How to cite this article: Pavithran P. Combining nerve blocks for a case of chest wall and scapular surgery. Indian J Anaesth 2022;66:S284-5.