

## Interscalene brachial plexus block in a neonate: Here's how

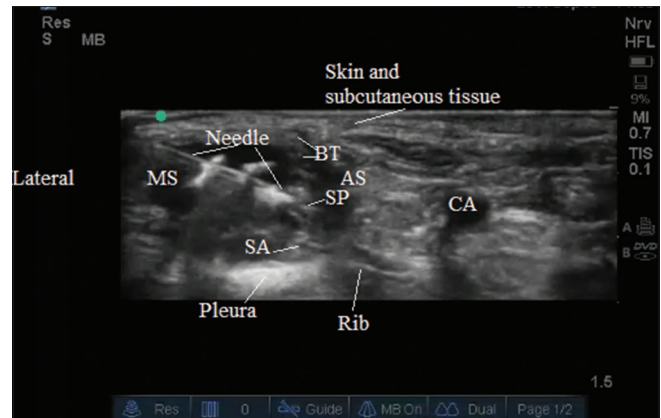
Sir,

The interscalene block (ISB) is seldom performed in neonates. We suggest that with congruous indications, favourable risk-benefit ratio and fitting expertise, any regional block that can be performed in grown-up children can be performed in neonates and premature babies as they are more sensitive to the depressant effects of anaesthetic drugs.<sup>[1]</sup> With this premise, the dense analgesia offered by regional anaesthesia (RA) without affecting the physiological milieu is beneficial. This letter aims to highlight the utility of ultrasound-guided interscalene brachial plexus block in a premature neonate thus avoiding opioids, muscle relaxants and airway instrumentation. Secondly, with sepsis being a relative contraindication for RA, it can still be judiciously implemented provided the risk-benefit ratio is favourable. We report a case of a 25-day-old baby boy, weighing 2.1 kg with the gestational age of 36 weeks and posted for left septic shoulder debridement.

The child had a history of fever and swelling on the left upper arm for 7 days. Peripheral oxygen saturation was 98% with oxygen supplementation of 2 litres per minute through a nasal cannula. Total white blood cell count was high. The international normalised ratio was in the normal range.

A written informed consent was obtained from the parents, and standard fasting guidelines were followed.

Standard monitors were attached, and ultrasound-guided ISB was planned under sevoflurane, oxygen and air with face mask with spontaneous ventilation via a Jackson Rees circuit.<sup>[2]</sup> The vital parameters were normal. The head was secured on a well-fitting headrest and was slightly turned to the right side. The left-sided interscalene brachial plexus was seen with a linear high frequency (6–13 Hz, 38 mm footprint) ultrasound probe (M-turbo, Sonosite Inc, Bothell, WA, USA,) in the transverse plane. The needle (Stimuplex, 24 Ga. × 1 inches 25 mm) insulated needle) was inserted from the lateral to medial direction, the tip was placed next to the interscalene brachial plexus [Figure 1], and 0.2% ropivacaine 1 mL was injected after repeated negative aspiration



**Figure 1:** Ultrasound scan, transverse axis, for Interscalene brachial plexus block. Note the depth. AS = anterior scalene, MS = medial scalene, CA = carotid artery, SA = subclavian artery. BT = brachial plexus trunks, SP = subclavian perivascular component of brachial plexus

checks. No variations in the heart rate or respiratory rate in response to the incision, or any withdrawal response to surgical stimulation was noted. Fentanyl was reserved as a rescue analgesic to be given for response to painful stimulation. However, it was not required. The surgery was completed in 45 min with the patient in the supine position and average dial flow of sevoflurane 0.5% to 0.8% with a mixture of 50% oxygen in air. An awake and active baby was shifted to the neonatal intensive care unit for postoperative monitoring. As a postoperative pain regime, a loading dose of intravenous paracetamol 20 mg/kg followed by 15 mg/kg 6 hourly was advised.

Owing to the dense analgesia offered by the ISB, airway instrumentation, muscle paralysis (required for intubation rather than the surgery here), and opioids were avoided. Special caution is advised for interscalene brachial plexus block in children because of potential risks of complications.<sup>[3,4]</sup> Albeit, we did not have the small footprint probe which is more suitable for neonates, it was feasible with the high frequency linear 38-mm footprint probe. The probe covered almost the entire left side of the neck. It was interesting to note the interscalene and the subclavian perivascular component of the brachial plexus (the trunk and their divisions) in the same scan without tilting the probe (a manoeuvre required to see the subclavian artery while visualising the interscalene brachial plexus). This worked to our advantage because all the crucial structures such as the subclavian artery, the pleura and first rib were visualised simultaneously. The local anaesthetic injected was seen bathing both the components. This, we believe is due to the close proximity of the structures

in the neck of the neonate. Although supraclavicular<sup>[5]</sup> and infraclavicular catheters<sup>[6]</sup> have been reported in the literature, to our knowledge, this is the first report describing ISB and its utility as the main anaesthetic, sparing airway instrumentation, opioids and muscle relaxants in a premature neonate.

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#### Conflicts of interest

There are no conflicts of interest.

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