

Ultrasound-guided infraclavicular block supplementation is possible during hand surgery

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To the Editor,

Ultrasound has been utilized to improve the block success rate while decreasing the incidence of complications during nerve blocks. The use of ultrasound allows clinicians to perform nerve blocks that would otherwise not be feasible with the aid of nerve stimulator alone. It is helpful during ongoing surgery when motor response to nerve stimulation is difficult or even impossible to evaluate, in cases like arthrodesis, total absence of a joint or already blocked extremity.

A 28-year-old ASA I female patient (height 162 cm, weight 65 kg) presented for right forearm surgery for nerve and tendon injury due to trauma. She had an ultrasound-guided lateral sagittal infraclavicular block (LSIB) using a relatively low-dose local anesthetic mixture (10 ml of lidocaine 2% and 10 ml of 0.75% levobupivacaine). Twenty minutes after block, pain-free surgery started. Two hours after the start of surgery the patient experienced some pain at the surgical site. Instead of converting to general anesthesia, we decided to supplement the block with the guidance of ultrasound. The axillary artery and cords were relatively closer to skin level (1.8 cm vertical depth from skin to posterior border of the axillary artery), and it was easy to perform the block

in the abducted arm position without distorting the sterile surgical field (Fig. 1a). Using LSIB technique, 10 ml of lidocaine 2% was administered directly posterior to the axillary artery (Fig. 1b). The patient was pain-free within a few minutes and the surgery was completed uneventfully within 45 minutes.

Despite increased block success rates with the aid of ultrasound guidance, block supplementation may still be required in up to 5% of patients following LSIB.^[1] Although incomplete blocks before the start of surgery can be supplemented by different means, intraoperative pain perception often results in con-



Fig.1. Lateral sagittal infraclavicular block performance during surgery.

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version to general anesthesia. Although originally described in the adducted arm position, LSIB can be performed in any arm position.^[2] It was shown that during infraclavicular block performance, abducting the arm 110° and externally rotating the shoulder moves the plexus away from the thorax and closer to the surface of the skin, and it was therefore relatively easy to perform a supplemental block during the intraoperative period.^[3]

We believe that with the aid of ultrasound guidance, intraoperative block supplementation is possible, thereby avoiding incomplete blocks or the need

to convert to general anesthesia during prolonged hand surgery.

References

1. Gürkan Y, Acar S, Solak M, Toker K. Comparison of nerve stimulation vs. ultrasound-guided lateral sagittal infraclavicular block. *Acta Anaesthesiol Scand* 2008;52:851-5.
2. Klaastad Ø, Smith HJ, Smedby O, Winther-Larssen EH, Brodal P, Breivik H, et al. A novel infraclavicular brachial plexus block: the lateral and sagittal technique, developed by magnetic resonance imaging studies. *Anesth Analg* 2004;98:252-6.
3. Bigeleisen P, Wilson M. A comparison of two techniques for ultrasound guided infraclavicular block. *Br J Anaesth* 2006;96:502-7.