gical anesthesia for foot and ankle surgery. Identification of surface landmarks for the lateral popliteal sciatic-nerve block depends upon the accurate location of the groove between the lateral border of the vastus lateralis muscle and tendon of the biceps femoris muscle.1-3 This process can be challenging, particularly in the muscular or obese patient, and maneuvers designed to accentuate the groove necessitate mobilization of what might be a traumatized limb. We propose the fibula as a fixed landmark that is easily palpable in all patients, regardless of body habitus, and that, more significantly, does not require limb mobilization for identification.

With the patient in a supine position, the ipsilateral lower limb is placed in the anatomic position with the foot at a 90° angle to the horizontal plane of the table. The head of the fibula is identified, and a line parallel to the long axis of the fibula and horizontal to the plane of the table is traced proximally at this level. A second line is traced laterally from the upper edge of the patella. The needle insertion site is defined as the intersection of these two lines (Fig 1). The stimulating needle is advanced in the same direction and the block performed in the same manner as previously described.1,2

This minor modification to the classically described approach of lateral popliteal sciatic-nerve block is a simple technique that relies on clear, easy identifiable landmarks. The need to mobilize the potentially traumatized limb is eliminated, making block performance easier for patient and physician alike.

Department of Anaesthesia
The Mater Misericordiae University Hospital
Dublin, Ireland

References

Eight Ball, Corner Pocket: The Optimal Needle Position for Ultrasound-Guided Supraclavicular Block

To the Editor:

The supraclavicular approach to the brachial plexus (BP) can provide excellent anesthesia for upper-extremity surgery. When compared with the axillary block, the supraclavicular approach to the brachial plexus offers a distinct advantage, specifically, faster onset of a dense block with a single injection using less local anesthetic.1 However, many anesthetists prefer not to perform this technique for fear of causing a pneumothorax. To minimize the risks of pneumothorax and vascular puncture, different supraclavicular approaches have been described,2,3 but concern about pleural injury persists. Ultrasound (US)-guided supraclavicular block has changed this reality. A real-time image of the needle tip, nerves, pleura, and vessels, at least theoretically, increases the safety of this technique. US guidance also improves the quality of the block and shortens the time taken to perform the procedure.4

It has been our experience that US-guided supraclavicular block is most easily performed using a 22-gauge, 5-cm needle and advancing it from a lateral to medial direction along the long axis (i.e., in-plane view) of a high frequency (e.g., 10-13 MHz) linear probe placed obliquely in the supraclavicular fossa.5 To further reduce the risk of pleural puncture, some practitioners in our group advance the needle in a medial to lateral direction, such that the needle tip is oriented away from the cupola of the lung.6 In this view, the subclavian artery is imaged as a pulsatile hypoechoic round structure, and the divisions of the brachial plexus can be easily visualized immediately lateral to the artery and superior to the first rib. The target for needle tip placement is the corner bordered by the subclavian artery medially, the first rib inferiorly, and the divisions of the brachial plexus superior laterally (Fig 1). Depositing local anesthetic at this point causes the divisions of the brachial plexus to float superiorly (Fig 1B). Our experience suggests that when local anesthetic bathes the inferior-most portion of the BP divisions, a dense and complete block of the entire upper extremity ensues within minutes. Indeed, to date, we have performed more than 200 US-guided supraclavicular blocks using this technique with excellent success. We have found that surgical anesthesia for...
forearm and hand surgeries can be achieved using as little as 15 mL of local anesthetic in adults. Conversely, when this “optimal” needle position is not achieved, block success can be unpredictable. In summary, our preliminary experience with US-guided supraclavicular BP block suggests that positioning the needle between the subclavian artery, first rib, and BP divisions results in a pattern of local anesthetic distribution that correlates with block success for forearm and hand surgeries. This technique is currently the subject of further study at our institution.

Luiz Guilherme Soares, M.D.
Richard Brull, M.D., F.R.C.P.C.
Jacob Lai, M.D., F.R.C.P.C.
Vincent W. Chan, M.D., F.R.C.P.C.
Department of Anesthesia & Pain Medicine
Toronto Western Hospital, University of Toronto
Toronto, Ontario, Canada

References


Accepted for publication October 25, 2006.
doi:10.1016/j.rapm.2006.10.007