

Costoclavicular Space

A Reliable Gate for Continuous Regional Anesthesia Catheter Insertion

Carles García-Vitoria, M.D., José Vizuete, M.D., Ana María López Navarro, M.D., Ph.D., Macarena Bosch, M.D.

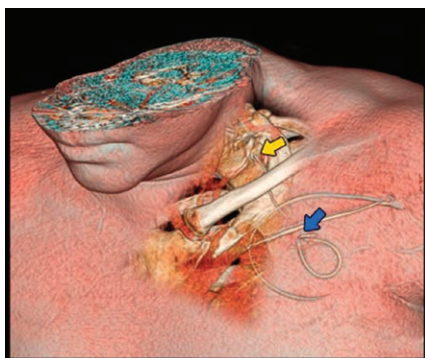


Fig. 1

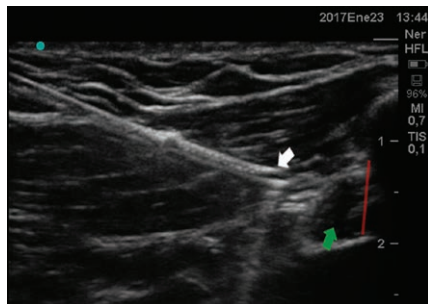


Fig. 2

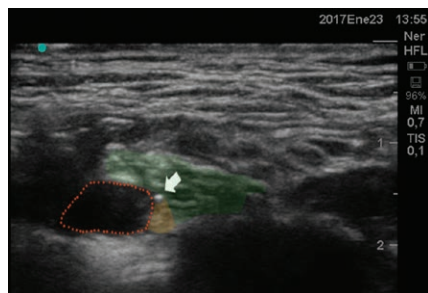


Fig. 3

CONTINUOUS ultrasound-guided brachial plexus blocks are indicated for pain control and rehabilitation after hand and elbow surgery.¹ The traditional supraclavicular approach implies a high risk of accidental catheter displacement. We describe an approach to the supraclavicular region through the costoclavicular space.^{2,3} Figure 1 shows a reconstructed image of a catheter placed using this technique with its entry point (blue arrow) and tip position (yellow arrow) marked.

As seen in figure 2, the needle is introduced 5 cm caudal to the clavicle, and its tip (white arrow) is advanced in-plane within the pectoralis major muscle, pointing to the subclavian muscle (green arrow) and the entry of costoclavicular space (red line). Once the tip view is lost under the clavicular anechoic shadow, a supraclavicular plexus image is obtained, and the needle is advanced out-of-plane, rubbing the clavicular periosteum, toward the “corner pocket.” The needle tip finally appears as a hyperechoic dot in the ultrasound image, and the catheter is advanced and left in place: figure 3 shows catheter tip (arrow) lateral to subclavian artery and surrounded by supraclavicular brachial plexus (shaded in green with “corner pocket” shaded in orange).

The greatest challenge of this procedure is to avoid puncturing the pleura and subclavian vessels. We become aware of their locations through ultrasound examination before the procedure.

Although there is a lack of preceding literature, in our experience, this approach offers better mechanical stability than the traditional supraclavicular approach. Because the catheter pierces the pectoralis major and subclavius muscles, a larger proportion of it remains tunneled and a wider range of safe neck movements is achieved.

Competing Interests

The authors declare no competing interests.

Correspondence

Address correspondence to Dr. García-Vitoria: carlesgvitoria@gmail.com

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From the Departments of Anesthesiology and Intensive Care (C.G.-V., M.B.) and Radiology (J.V.), Hospital Universitari Doctor Peset, Valencia, Spain; and Department of Anesthesiology and Intensive Care, Hospital Intermutual de Levante, Valencia, Spain (A.M.L.N.).

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