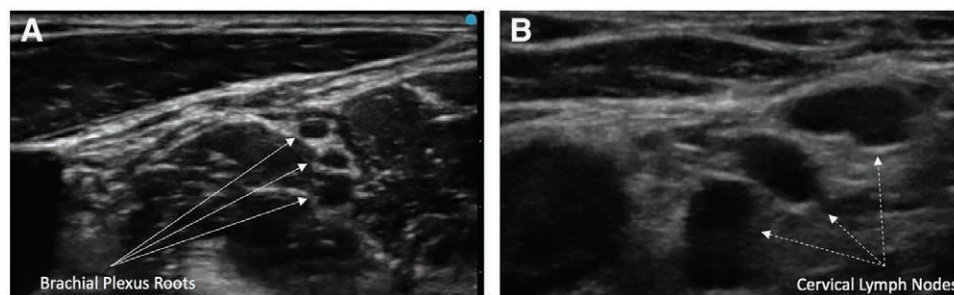


Cervical Lymphadenopathy Masquerading as the Interscalene View of the Brachial Plexus

Shane M. Regnier, M.D., Ph.D., Lawrence J. Younan, M.D., Coti R. Phillips, M.D., John J. Finneran IV, M.D.



Interscalene block of the brachial plexus is useful for analgesia after surgery on the distal clavicle, shoulder, and upper arm. When performing an interscalene block with ultrasound guidance, anesthesiologists identify the prototypical stoplight appearance of the C5, C6, and C7 nerve roots (*solid arrows*) between the scalene muscles (panel A).¹ Although this view is often easily obtained, patient anatomy can be deceiving, particularly in individuals with cervical lymphadenopathy. During interscalene block in a patient with significant cervical lymphadenopathy, three hypoechoic structures (*dashed arrows*, panel B) were seen with similar ultrasonographic appearance to the interscalene view of the brachial plexus; these structures were later identified as enlarged lymph nodes. Also visible in both panels are the carotid artery and sternocleidomastoid muscle.

Lymph nodes can be mistaken for a variety of anatomic structures and may be differentiated through the use of ultrasound²; thus, it is important for an anesthesiologist to understand distinguishing sonographic characteristics. Unlike nerves, lymph nodes are spherical, and cannot be traced by scanning proximally and distally. Furthermore, lymph nodes may contain internal opacities.³ Lymph nodes may be differentiated from vascular structures, as lymph nodes are noncompressible, nonpulsatile, and will not show flow when using Doppler ultrasound. If a provider is having difficulty identifying the roots during interscalene block, tracing the nerves distally as they exit the vertebral foramen, or proximally from the supraclavicular view can be useful. If this technique is not possible because of aberrant patient anatomy or postsurgical changes, use of a nerve stimulator may be considered.

Competing Interests

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Correspondence

Address correspondence to Dr. Regnier: sregnier@ucsd.edu

References

1. Marhofer P, Harrop-Griffiths W, Willschke H, Kirchmair L: Fifteen years of ultrasound guidance in regional anaesthesia: Part 2—Recent developments in block techniques. *Br J Anaesth* 2010; 104:673–83
2. Paulick M, Ilfeld BM, Finneran JJ IV: Ultrasound evaluation rules out a suspected hematoma after continuous infraclavicular brachial plexus block. *Reg Anesth Pain Med* 2018; 43:562–3
3. Sites BD, Brull R, Chan VW, Spence BC, Gallagher J, Beach ML, Sites VR, Abbas S, Hartman GS: Artifacts and pitfall errors associated with ultrasound-guided regional anesthesia. Part II: A pictorial approach to understanding and avoidance. *Reg Anesth Pain Med* 2007; 32:419–33