

CLINICAL IMAGES

Anatomy variation of brachial plexus trunks during supraclavicular nerve block: clinical image

Vendhan Ramanujam *, Patrick Van Kirk 

Warren Alpert Medical School of Brown University/ Rhode Island Hospital, Department of Anesthesiology, Providence, Rhode Island, USA

Received 31 May 2022; accepted 24 June 2022

Available online xxx

For successful ultrasound-guided peripheral nerve block, recognition of anatomy of interest either as normal or abnormal is vital. We report the image of anatomical variation of brachial plexus at supraclavicular level in a 28-year-old healthy male with no significant medical history and no prior neck surgery, injury, or radiation exposure who came for wrist surgery. A caudal tilt towards ipsilateral lung during supraclavicular ultrasound scanning revealed the presence of superior and middle trunks, superior and medial to subcla-

vian artery respectively rather than being situated lateral to artery along with inferior trunk (Fig. 1). Anomalies of brachial plexus have usually been reported in interscalene region.¹ Rarely a single trunk abnormality has been reported in supraclavicular region.² Thus, our report of images of deviation of two trunks are clinically compelling. When there are alterations in signaling between mesenchymal and neuronal growth cones or circulatory factors at time of development of brachial plexus such abnormalities can

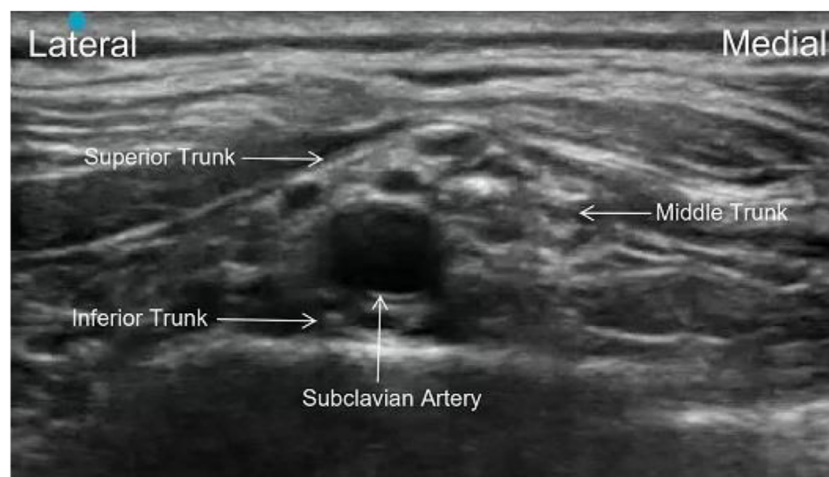


Figure 1 Brachial plexus anomaly at supraclavicular level with superior and middle trunks superior and medial to subclavian artery, respectively.

* Corresponding author

E-mail: vendhan_ramanujam@brown.edu (V. Ramanujam).

<https://doi.org/10.1016/j.bjane.2022.06.009>

0104-0014/© 2022 Sociedade Brasileira de Anestesiologia. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Please cite this article in press as: V. Ramanujam and P.V. Kirk, Anatomy variation of brachial plexus trunks during supraclavicular nerve block: clinical image, Brazilian Journal of Anesthesiology (2022), <https://doi.org/10.1016/j.bjane.2022.06.009>

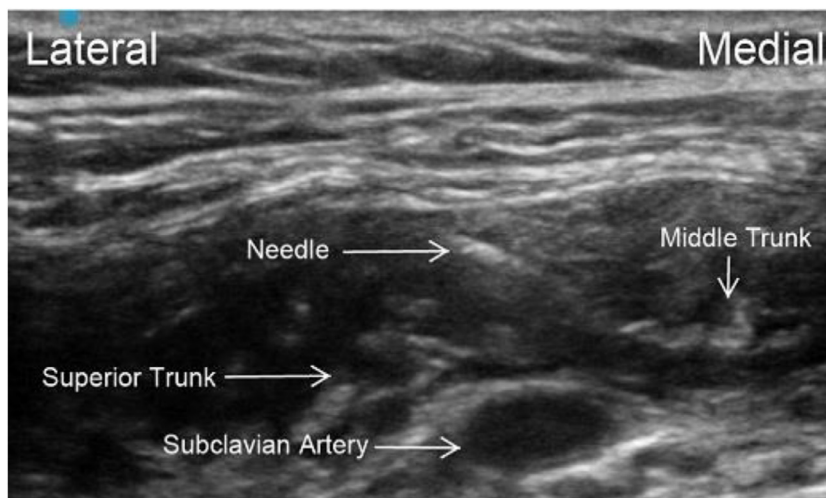


Figure 2 Targeted blocking of superior and middle trunks.

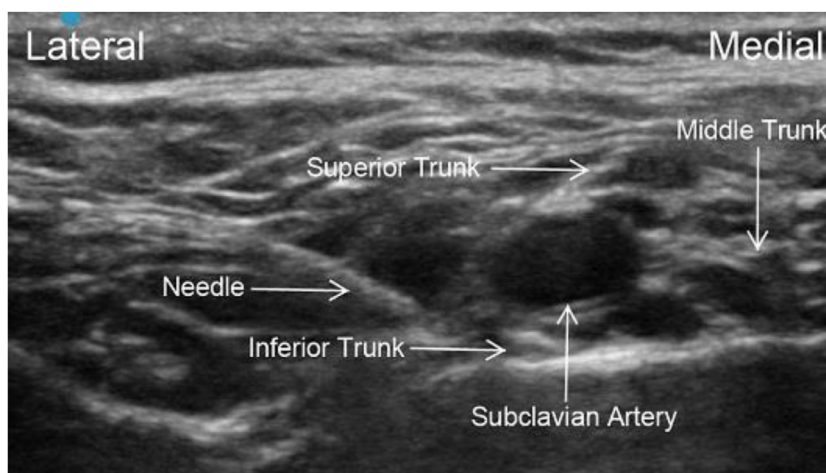


Figure 3 Targeted blocking of inferior trunk.

occur.³ The anomaly recognition allowed us to individually block the trunks and achieve a successful surgical anesthesia (Figs. 2 and 3). In conclusion, anatomical variation of brachial plexus can happen, and use of ultrasound helps identifying them to safely and successfully administer the block.

Conflicts of interest

The authors declare no conflicts of interest. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

1. Kessler J, Gray AT. Sonography of scalene muscle anomalies for brachial plexus block. *Reg Anesth Pain Med.* 2007;32:172–3.
2. Chin KJ, Niazi A, Chan V. Anomalous brachial plexus anatomy in the supraclavicular region detected by ultrasound. *Anesth Analg.* 2008;107:729–31.
3. Padur AA, Kumar N, Shanthakumar SR, Shetty SD, Prabhu GS, Patil J. Unusual and unique variant branches of lateral cord of brachial plexus and its clinical implications – A cadaveric study. *J Clin Diagn Res.* 2016;10:AC01–4.