

In the plane, but not in plane: Mind the gap in the transversus abdominis plane

Sir,

Ultrasound-guided nerve blocks are widely accepted as the standard of care in the provision of post-operative pain relief as they allow for needle visualisation during the entire procedure and minimise the risk of complications.^[1] In resource-limited countries, stylets of intravenous (IV) cannulae are commonly used as they are 1/10–1/15th the cost of ultrasound needles and yet adequately reflect ultrasound so as to allow stylet visualisation during the performance of the block.

Some IV cannula manufacturers provide an additional hole in the body of the stylet, just proximal to the distal opening so as to allow for quick flash of blood in the catheter allowing for its earlier detection in the vein. We wish to highlight the fallacy of using such stylets for ultrasound-guided nerve blocks. A 9-year-old boy was posted for elective laparoscopic splenectomy under general anaesthesia. Transversus abdominis plane (TAP) block was planned for post-operative analgesia in this patient under ultrasound guidance.

After induction of anaesthesia, under sterile precautions, the TAP plane was identified with the vascular probe (HFL 38x/13-6 MHz) of SonoSite ultrasound machine (Fujifilm SonoSite Inc., Bothell, WA, USA). The stylet of a 20 G IV cannula (Polyflon™,

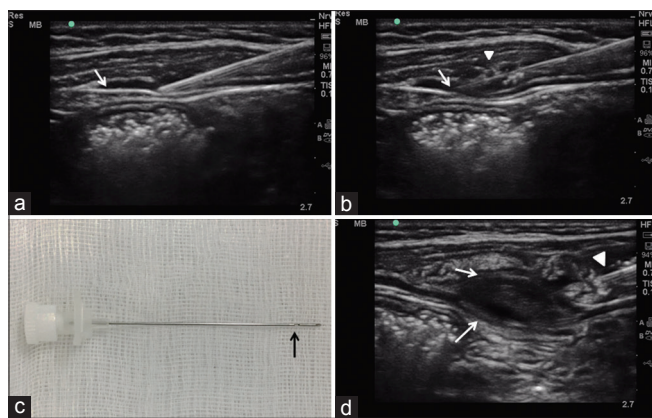


Figure 1: (a) The tip of the stylet is seen indenting the TAP plane (arrow). (b) Although the stylet tip indents the TAP plane, drug deposition is observed proximal to the tip (arrow head) and occurs in the internal oblique muscle plane. (c) Withdrawal and inspection of the stylet reveals a proximal hole in the body of the stylet (black arrow). (d) Use of a standard IV cannula stylet without proximal hole results in correct drug deposition in the TAP plane leading to separation of the plane (arrows) and the stylet is also visualised (arrow head). TAP – Transversus abdominis plane, IV – Intravenous

Polymed medical devices, India; website-www.polymedicure.com) was used for performing the block. The tip of the stylet was clearly identified in the TAP plane [Figure 1a]. However, when the local anaesthetic drug was administered, it was found to be dispersing into the muscle plane [Figure 1b and Video 1]. On withdrawal and inspection, it was found that the stylet was provided with an additional proximal hole for quick flash technology and though the stylet tip was in the correct plane, the drug was eluting through this proximal hole [Figure 1c]. The TAP block was then re-attempted with a standard IV cannula stylet, and this time, the local anaesthetic drug was correctly delivered in the plane [Figure 1d and Video 2].

This case highlights the importance of pre-checking stylets, spinal needles or long hypodermic needles that may be used for performing ultrasound-guided nerve blocks by simply flushing these hypodermic needles with saline.

Informed consent

Consent for reporting this observation was obtained from the parents of the patient.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the legal guardian has given his consent for images and other clinical information to be reported in the journal. The guardian understands that names and initials will not be published and due efforts will be made to conceal patient identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Bikram Kishore Behera, Satyajeet Misra

Department of Anaesthesiology, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India

Address for correspondence:

Dr. Satyajeet Misra,
Department of Anaesthesiology, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India.
E-mail: misrasatyajeet@gmail.com

REFERENCE

- Hopkins PM. Ultrasound guidance as a gold standard in regional anaesthesia. *Br J Anaesth* 2007;98:299-301.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Videos Available on: www.ijaweb.org

Access this article online

Quick response code



Website:
www.ijaweb.org

DOI:
10.4103/ija.IJA_218_18

How to cite this article: Behera BK, Misra S. In the plane, but not in plane: Mind the gap in the transversus abdominis plane. *Indian J Anaesth* 2018;62:565-6.

© 2018 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow