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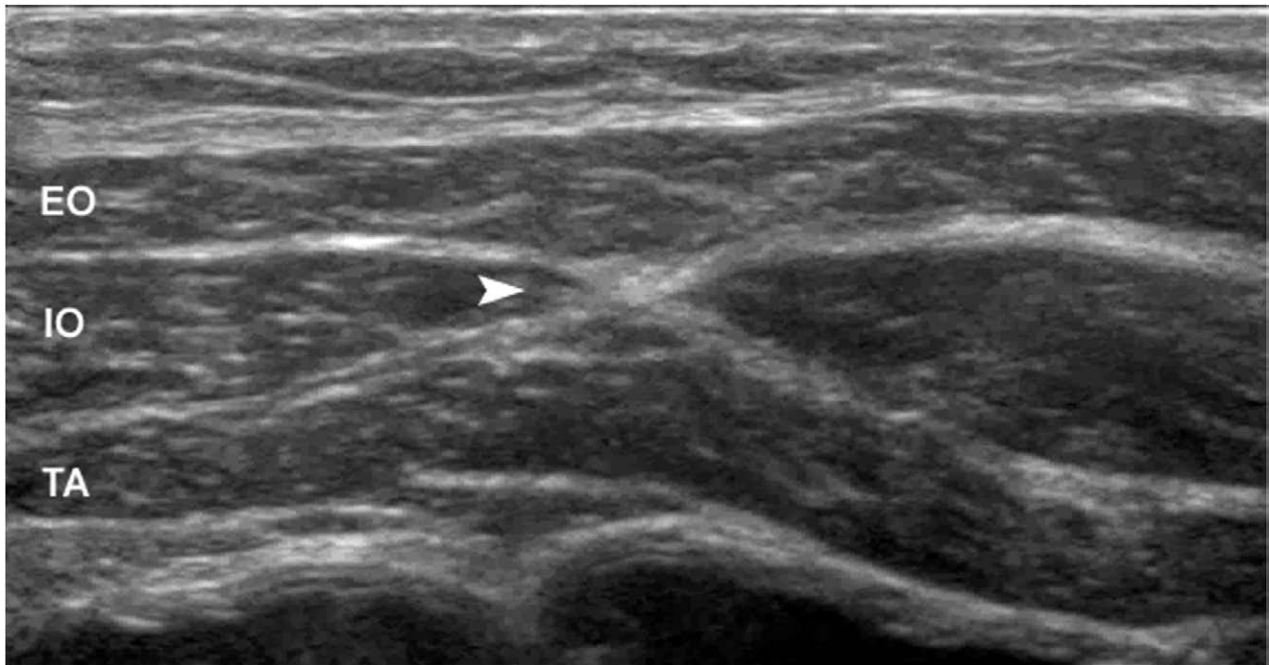
Images in Anesthesiology: An Unusual Transversus Abdominis Plane Block

Anatomic Variation in the Internal Oblique Muscle

Vincent K. Lew, M.D.,* Andrew T. Gray, M.D., Ph.D.

*Department of Anesthesiology and Perioperative Care, University of California, San Francisco.

lewv@anesthesia.ucsf.edu



THE transversus abdominis (TA) plane regional anesthesia block is a well-described and effective method for reducing pain from lower abdominal surgeries. Successful ultrasound-guided TA plane block is dependent on correct recognition of muscle borders within the anterolateral abdominal wall.¹ This wall is composed of three distinct muscle layers from the external oblique (EO), internal oblique (IO), and TA. The abdominal wall is innervated by the underlying nerves that travel within the neurofascial plane between the IO and TA muscles. We recently identified an anatomic variation within the IO muscle in a 53-yr-old woman who underwent an exploratory laparotomy *via* Pfannenstiel incision. Instead of three muscle layers atop one another, a septal-appearing band (*arrow*) was found within the IO muscle during ultrasound-guided TA plane block. This anatomic variation was only observed within the right abdominal wall and appeared similar to a fibrous band or inscription that can occasionally be found within the IO muscle during anatomic dissection.² Although tendinous inscriptions are consistently found in the rectus abdominis and semitendinosus muscles, the incidence within the IO muscle is not known. Although refraction artifacts have been reported when visualizing the lens-shaped intersection of the rectus abdominis muscles,³ no such artifact was identified deep to the variant IO muscle. Using tactile sensation alone, the landmark-based “double-pop” technique might have entered the peritoneal cavity, which has been shown to occur in an unexpectedly high number of cases during training.¹ Thus, this anatomic variation may have safety and efficacy implications for TA plane blocks guided by tactile sensation without the use of imaging.

References

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