

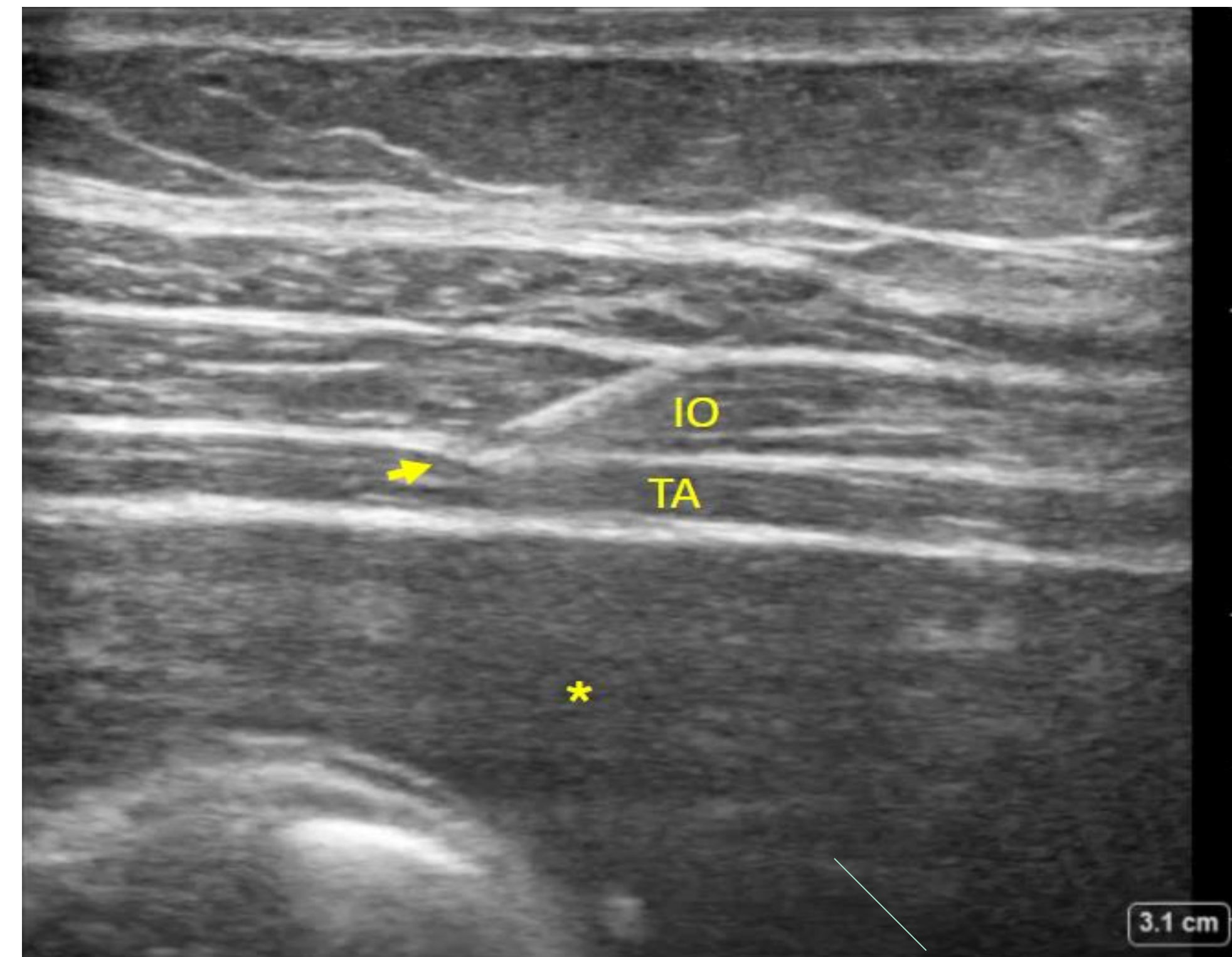
Introduction

- Abdominal paracentesis is a key diagnostic and therapeutic intervention in patients with ascites
- Transversus abdominis plane (TAP) block is most often used for post-operative pain management in abdominal surgeries
- TAP blocks are being increasingly utilized in the ED for conditions such as appendicitis, rectus sheath hematomas, renal colic, and abdominal wall abscesses¹⁻⁵
- This is the first reported ED case of a TAP block used as part of a pain management strategy for paracentesis, demonstrated in a patient suspected peritonitis

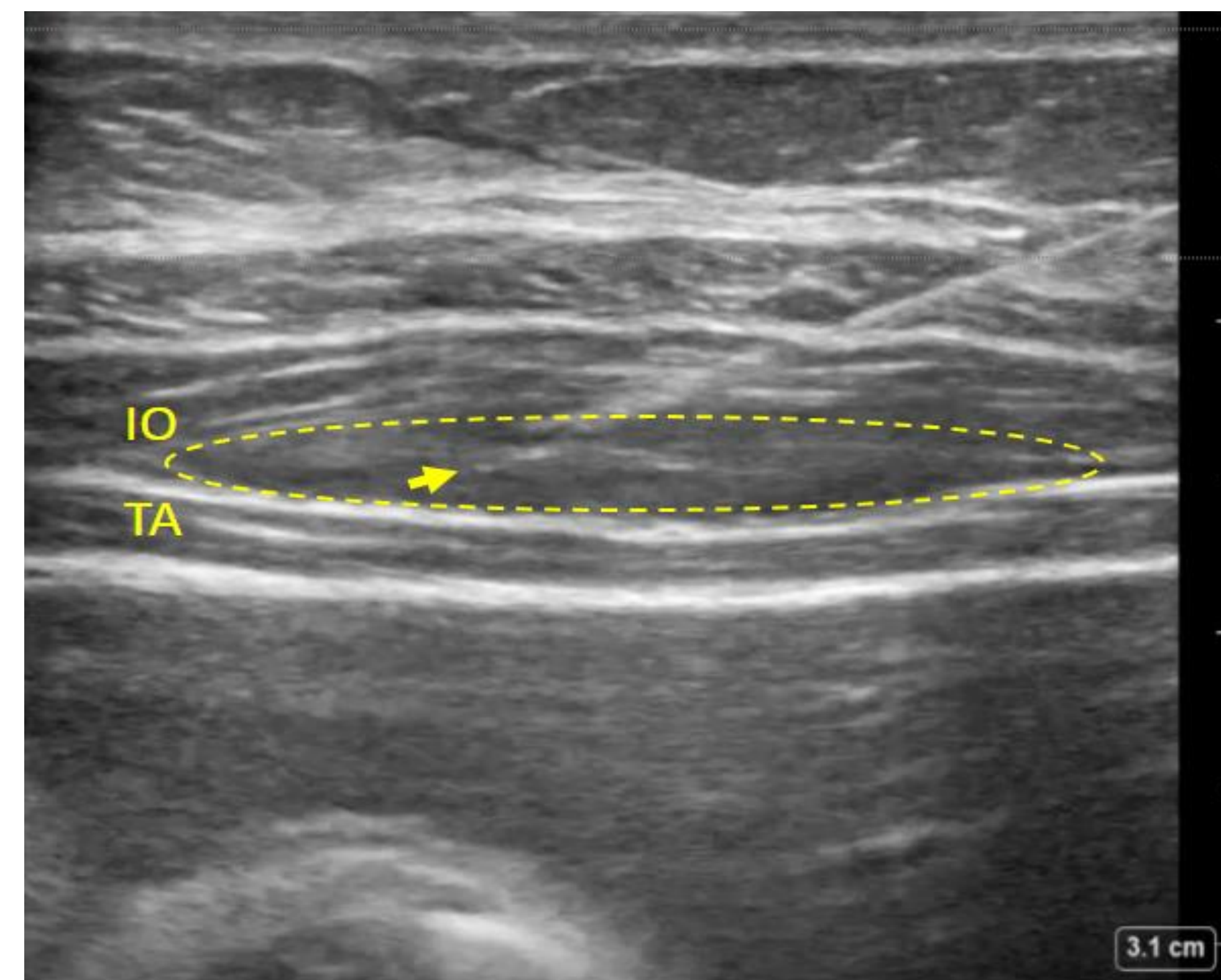
Case Summary

- 33-year-old female with alcoholic cirrhosis presented with abdominal pain with distension, and chills
- Vital signs notable for tachycardia
- TAP block w/ 30mL 0.25% Bupivacaine performed prior to paracentesis
- Pre-block pain was 8/10; 45 minutes after she endorsed near-complete sensory loss to the right hemi-abdomen
- Felt pressure during paracentesis but denied pain during insertion of the paracentesis needle
- 2,200ml of serous fluid drained uneventfully and pain was well controlled for the entire ED stay
- Fluid studies ruled out spontaneous bacterial peritonitis, and patient was admitted to the hospital and discharged after six days

Images



Needle tip (arrowhead) inserted in the transversus abdominis plane between internal oblique (IO) and transversus abdominis muscle (TA) with visualized ascitic fluid (*)



Anesthetic spread (dashed line) along transversus abdominis plane after Bupivacaine injection. Needle tip (arrowhead) remains between internal oblique (IO) and transversus abdominis (TA) muscle groups

Discussion

- With AASLD guidelines recommending a diagnostic paracentesis for all hospitalized cirrhotic patients with ascites, ED-performed diagnostic paracenteses will become more frequent⁶
- TAP block provide effective analgesia prior to paracentesis, improving comfort and minimizing opioid use – important in cirrhotic patients who may have contraindications to systemic sedatives
- Incorporating ultrasound-guided regional anesthesia into standard ED practice can improve procedural tolerance and provide valuable skill-building opportunities for early learners in regional anesthesia
- Limitations include prolonging an already time-intensive procedure in the ED and increased resource utilization with cardiac monitoring and post-procedure observation

Conclusion

- TAP blocks are a safe and effective adjunct for pain control in patients undergoing paracentesis in the Emergency Department
- This case highlights the value of regional anesthesia as part of a multimodal pain strategy, especially in patients with severe ascites

References

1. Mavarez AC, Hendrix JM, Ahmed AA. Transabdominal Plane Block. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing; November 13, 2023.
2. Mahmoud S, Mirafior E, Martin D, Mantuani D, Luftig J, Nagdev AD. Ultrasound-guided transverse abdominis plane block for ED appendicitis pain control. *Am J Emerg Med*. 2019;37(4):740-743. doi:10.1016/j.ajem.2019.01.024
3. Stenberg RT, Wahi-Singh B, Wahi-Singh P, Hill A, Simon EL. Transversus abdominis plane (TAP) block for pain management of rectus sheath hematoma in the emergency department (ED). *Am J Emerg Med*. 2023;63:183.e1-183.e3. doi:10.1016/j.ajem.2022.10.036
4. Kadioglu E, Kaya M, Yildirim H. Transversus abdominis plane block: A new method in renal colic pain management. *Am J Emerg Med*. 2020;38(10):2116-2118. doi:10.1016/j.ajem.2020.07.014
5. Herring AA, Stone MB, Nagdev AD. Ultrasound-guided abdominal wall nerve blocks in the ED. *Am J Emerg Med*. 2012 Jun;30(5):759-64. doi: 10.1016/j.ajem.2011.03.008. Epub 2011 May 12. PMID: 21570238.
6. Biggins SW, Angeli P, Garcia-Tsao G, et al. Diagnosis, Evaluation, and Management of Ascites, Spontaneous Bacterial Peritonitis and Hepatorenal Syndrome: 2021 Practice Guidance by the American Association for the Study of Liver Diseases [published correction appears in *Hepatology*. 2024 Nov 1;80(5):E89. doi: 10.1097/HEP.0000000000000983.]. *Hepatology*. 2021;74(2):1014-1048. doi:10.1002/hep.31884