

The Utilization of a Transversus Abdominus Plane Block for Abdominal Mesh Pain During Pregnancy

Ryan Nierstedt MD, Joseph Homsy MD

Introduction

- Over 350,000 surgical ventral hernia repairs occur each year in the United States.
- For women of childbearing age, mesh utilization for repair remains controversial.
- We present a case of a pregnant woman with severe mesh related abdominal pain that was significantly relieved with a single shot transversus abdominus plane (TAP) block.
- This success highlights an opportunity for collaboration between obstetricians and regional anesthesiologists as it relates to alternative methods of analgesia related to prior surgical interventions.

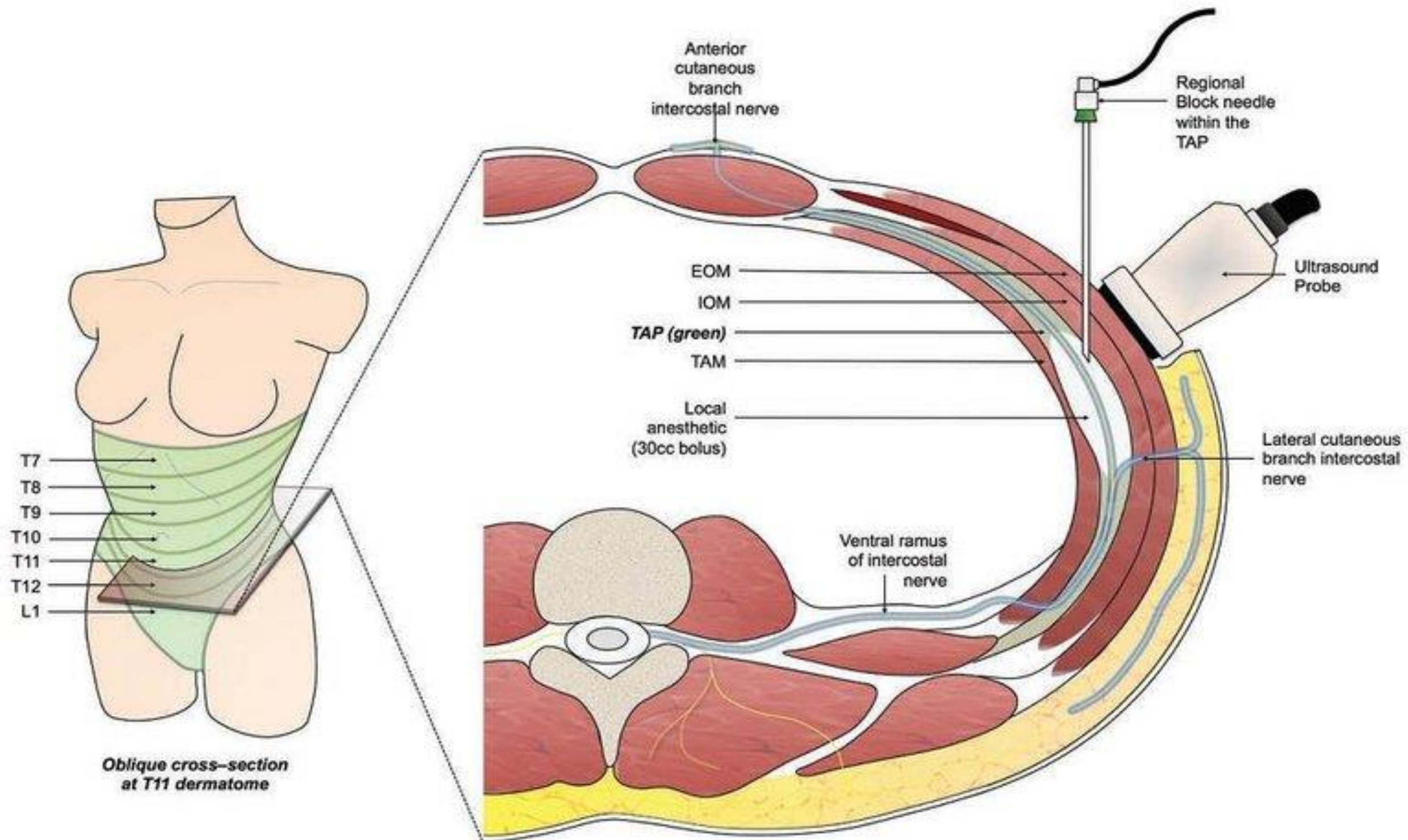
Methods

- Informed consent was obtained from the patient prior to the writing of this case report. As this case report contains no identifiable information, it is exempt from IRB review requirements as per Mass General Brigham institutional policy.

Case Description

- 38 year old G2P0 female at 36 weeks GA presented to her obstetrician with abdominal pain overlying her previously implanted surgical mesh for hernia repair.
- Activities of daily living for this patient became challenging due to significant pain. Traditional pharmacologic strategies employed by her obstetrician were unsuccessful.
- Under ultrasound visualization, the TAP fascial plane was accessed and 30mL of bupivacaine 0.5% with 1:400K of epinephrine was injected incrementally.
- After the nerve block, the patient's pain was completely eliminated.
- The pain returned after 4-5 days, however, it was significantly more manageable.

Figure 1: The TAP plane is located between the transversus abdominis and the internal oblique muscles which contains the ipsilateral thoracolumbar nerves and cutaneous perforating branches as the plane continues medially



Discussion

- This case report discusses a novel utilization of a single-shot TAP block for pregnancy-related mesh pain.
- Benefit immediately following the block is well understood. The long-term benefit may be related to muscle relaxation surrounding the mesh site allowing for accommodation of previously entrapped nerves.
- This case report demonstrates the opportunity of regional anesthesia to surpass the confines of the perioperative period and offers obstetricians additional analgesic options for patients with mesh related pain.
- Our case report demonstrates that single-shot TAP blocks may be an effective source of analgesia for patients experiencing abdominal mesh pain during pregnancy.

References
Cherla DV, Poulou B, Prabhu AS. Epidemiology and Disparities in Care: The Impact of Socioeconomic Status, Gender, and Race on the Presentation, Management, and Outcomes of Patients Undergoing Ventral Hernia Repair. *Surg Clin North Am*. 2018 Jun;98(3):431-440. doi: 10.1016/j.suc.2018.02.003. Epub 2018 Mar 21. PMID: 29754613.
Jablonska EM, Lamelas AM, Kim JN, Molina B, Molina N, Okwail M, Samson W, Sultan MR, Dayan JH, Smith ML. Transversus Abdominis Plane Blocks with Single-Dose Liposomal Bupivacaine in Conjunction with a Nonopioid Pain Regimen Help Reduce Length of Stay following Abdominally Based Microsurgical Breast Reconstruction. *Plast Reconstr Surg*. 2017 Aug;140(2):240-251. doi: 10.1097/PRS.0000000000003508. PMID: 28746269; PMCID: PMC59074889.
Tsai HC, Yoshida T, Chuang TY, Yang SF, Chang CC, Yao HY, Tai YT, Lin JA, Chen KY. Transversus Abdominis Plane Block: An Updated Review of Anatomy and Techniques. *Biomed Res Int*. 2017;2017:8284363. doi: 10.1155/2017/8284363. Epub 2017 Oct 31. PMID: 29226150; PMCID: PMC5684553.