This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record.

Please cite this article as https://doi.org/10.4097/kja.20023
Title Page:

1. Title: Low thoracic erector spinae plane block for perioperative analgesia in transfeminine bottom surgery

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3. Running Title: Erector spinae plane block for vaginoplasty

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5. Prior presentations: Not applicable

6. Conflicts of Interest: No potential conflict of interest relevant to this article was reported

7. Funding: No funding was obtained for this article

8. Acknowledgments: This work is supported with resources and the use of facilities at Denver Health Medical Center (Denver, CO, USA). The author thanks Jennifer S Hyer (MD) for her support of the study, Murphy Anderson (CRNA) for his enthusiasm during the case, and Howard J Miller (MD) for ongoing support as the director of our department.

9. IRB Number: Not applicable

10. Clinical Trial Registration Number: Not applicable
Low thoracic erector spinae plane block for perioperative analgesia in transfeminine bottom surgery

- Letter to the Editor -

Approximately 1 million people in the United States are transgender [1]. Transfeminine bottom surgery (TBS) transforms the male genitalia into that of a female; the optimal perioperative anesthetic plan is undetermined. The ultrasound-guided erector spinae plane block (ESP) is an interfascial plane block used primarily for post-operative analgesia [2,3]. It is effective in lumbo-sacral surgery [4], thus suggesting a possible role in TBS. We report the use of an ultrasound-guided ESP block as part of a multi-modal analgesic technique to avoid intra-operative opioids and minimize post-operative opioids. The patient provided informed consent to publish the case.

A 32-year-old, 70 kg, female (male by sex) with history of asthma and gender dysphoria was scheduled to undergo orchiectomy, penectomy, clitoroplasty, labiaplasty, and vaginoplasty. In the preoperative area, she received 1000 mg PO acetaminophen, 600 mg gabapentin, and a scopolamine patch. Upon entering the operating room, she was given 2 mg IV midazolam for anxiolysis, and she was sat up. Standard monitors were attached, and her back was steriley prepped; using a low-frequency curvilinear transducer in parasagittal orientation (rC60xi, SonoSite SII, FUJIFILM SonoSite Inc., USA), the right-sided ribs were counted, starting rostrally at the neck until T11 was located. The probe was moved medially to locate the transverse process (TP). Under ultrasound guidance, a 21 g nerve block needle (SonoPlex STIM, Pajunk Medical Systems L.P., USA) was inserted in-plane rostral to caudal until the TP was contacted (Fig. 1A); after aspiration demonstrated no blood return, a bolus of 35 cc of 0.25% plain bupivacaine mixed with 1:200K epinephrine was injected through the needle.
This was repeated on the left side. The ultrasound was then used to demonstrate lung sliding bilaterally (Fig. 1B), confirming no pneumothorax after the nerve block. The patient was laid back and induced with 70 mg IV lidocaine and 100 mg IV propofol followed by 50 mg IV rocuronium; mask ventilation and intubation proceeded uneventfully. During the 4-hour surgery, she was maintained on a propofol drip at 75 μg/kg/min and sevoflurane at an end-tidal of 1%; as part of a multi-modal regimen, she received dexamethasone 8 mg IV, ketamine 50 mg IV, dexmedetomidine at 0.3 μg/kg/h (total 71 μg), and esmolol at 35–50 μg/kg/min. No opioids were administered nor additional local anesthetic injected by the surgeon, and 2200 μg of phenylephrine were required to maintain systolic blood pressures in the high 90s (preoperative BP 116/77).

Extubation was uneventful, and she complained of minimal pain, requiring only 50 μg fentanyl, 30 mg ketorolac, and 5 mg oxycodone in the PACU; specifically, the patient stated she had more “gas pain, than surgical pain.” Her post-operative pain regimen included acetaminophen 1000 mg PO q6 hours and ibuprofen 600 mg PO q6 hours with breakthrough oxycodone (5–10 mg q3–4 hours PRN); on POD 0, she tolerated food and requested 10mg oxycodone in addition to simethicone for gas pain. Unfortunately, the patient developed bleeding from her surgical site and required a return to the OR early on POD 1 for an exam under general anesthesia, during which she received 2 mg IV midazolam, 50 μg IV fentanyl, and 50 mg IV ketamine. No source was found, and she was re-packed and transferred to the floor. Her consequent hospital course was unremarkable, with the patient repeatedly stating her pain was well controlled. She required only 70 mg oxycodone over the next 2.5 days, after which she was discharged home.

TBS involves sensitive anatomy, and beyond a single published abstract suggesting the use of pudendal nerve blocks for post-operative pain control, guidance relies on opinion [5]. There are no previously published cases demonstrating the efficacy of the ESP block for genital surgery, possibly
because the innervation involves sacral nerve roots. We used a high volume of local anesthetic to ensure spread; indeed, the ESP block facilitated the minimization of opioids during her hospital stay while still affording excellent pain control.
References


Fig. 1. (A) The ultrasound image demonstrates the nerve block needle contacting the transverse process,

(B) The “sea-shore” sign is present in M-mode, confirming no pneumothorax.