



LETTER TO THE EDITOR

Ultrasound-guided multisite transversus abdominis plane block for the treatment of scar-caused neuropathic pain in a child

Çocuk hastada skara bağlı nöropatik ağrı tedavisinde ultrason kılavuzluğunda çok bölgeli transversus abdominis düzlem bloğu

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To the Editor,

Transversus abdominis plane (TAP) block is one of the most popular regional analgesia technique for blocking the nerves supplying the anterolateral abdominal wall. With this block, medications are applied to the fascial plane between the internal oblique and transversus abdominis muscles, to unilaterally block of T7 – L1 spinal nerves.^[1,2] The well definition of the ultrasound-guided newer techniques has enabled this block to be more applicable for different indications. Here, we would like to present a successful treatment of scar tissue-induced neuropathic pain in the abdominal wall in a child, using ultrasound-guided multisite TAP block.

Written informed consent was obtained for the publication of this report. The patient was 15 year-old girl, American Society of Anesthesiologists physical status III and previously had undergone multiple abdominoperineal surgeries with the diagnosis of persistent cloaca, left renal agenesis, right cross ectopic kidney, vesicovaginal fistula, hydrocolpos, vesicoureteral reflux, hydronephrosis, and congenital hip dislocation. She was admitted to our pain department with complaints of bilateral severe pricking, burning, and tingling neuropathic pain in her abdominal wall with an intensity of 8/10, numerical rating score (NRS). The previous analgesic medications such as paracetamol, various non-steroidal anti-inflammatory drugs, pre-

gabalin, tramadol, and amitriptyline have not adequately worked.

We planned to perform bilateral TAP block for pain relief, with combination of corticosteroid and local anesthetic, concurrent with her control examination under general anesthesia. A high frequency linear probe (LOGIQe® GE Medical Systems Co., Ltd. Jiangsu, China) and 22-gauge, 50-mm block needle (Braun Stimuplex Ultra 360; Melsungen, Germany) were used for the procedure. Due to the multiple scar tissues on the patient's abdominal wall preventing smooth dispersion of medication (Fig. 1), block plan was changed to multisite approach between the scar tissues unlike conventional TAP block approach. Therefore, before the procedure in the supine position, abdominal wall sonographically scanned to identify areas where the fascial plane is best seen. Block site and the ultrasound probe prepared in sterile manner. After visualizing the fascia between internal oblique and transversus abdominis muscles, needle was advanced within the interfascial plane using the *in plane* technique and 1 mL of saline was injected to confirm the correct injection site, followed by administration of 5 mL of 0.1% bupivacaine+1.2 mg/mL triamcinolone mixture. Subsequently TAP block was performed in six different sites, three on each side of the abdominal wall ([Fig. 2], injection sites marked with "1"). Within 1 h the pain subsided, the NRS score was 0 and the patient appeared relaxed. In the control visit 1 month

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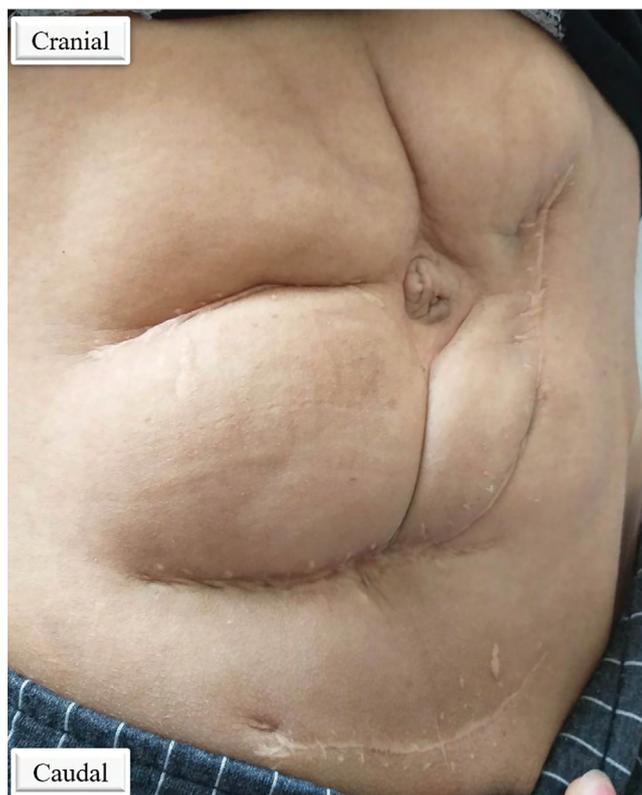


Figure 1. External view of the patient's abdominal wall.

after the procedure, one of the six segments had residual pain, so the second injection was given only to that part (marked with "2" in [Fig. 2]). She had no complaints about pain at the 8th month follow-up.

TAP block provided sufficient chronic neuropathic pain relief in our patient. Being an easy and effective regional anesthesia procedure, it can be useful for chronic pain palliation or treatment. Using ultrasound guidance during the procedure to determine the best site to inject, it is possible to increase efficiency and safety of the procedure, as well as to

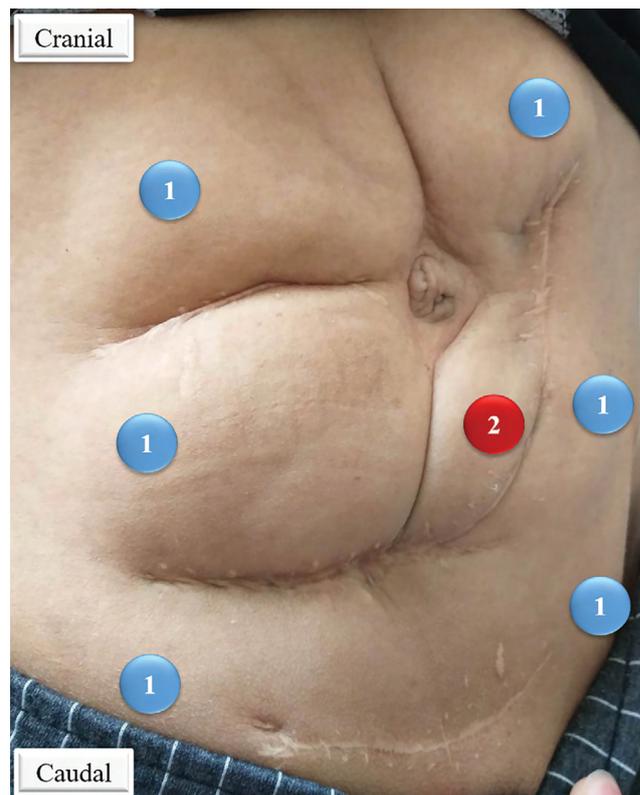


Figure 2. Injection points (1: First injections, 2: Second injection).

overcome difficulties and to achieve modified approaches.

References

1. Rozen WM, Tran TM, Ashton MW, Barrington MJ, Ivanusic JJ, Taylor GI. Refining the course of the thoracolumbar nerves: A new understanding of the innervation of the anterior abdominal wall. *Clin Anat* 2008;21(4):325–33. [\[CrossRef\]](#)
2. Tsai HC, Yoshida T, Chuang TY, Yang SF, Chang CC, Yao HY, et al. Transversus abdominis plane block: An updated review of anatomy and techniques. *Biomed Res Int* 2017;2017:8284363. [\[CrossRef\]](#)