Background and Aims Early postoperative reduction of hospital stay necessitates efficient postoperative analgesia. Transversalis fascia plane block (TFPB) has provided adequate analgesia and lowered postoperative opioid requirement in comparison to controls for some abdominal surgery.

Methods After LEC approval trial a 37 children (14.4 ± 2.1 years) undergoing appendicitis were randomized to receive 0.33% ropivacaine (Group TFPB, n = 24) or saline (Group Control, n = 23) for TFP block. Spinal anesthesia was then performed. Pain intensity was assessed using the visual analog scale (0: no pain to 10: worst possible pain). The primary outcome was pain scores recorded at rest at 3, 6, 12, 24, 36, and 48 h and on standing and walking at 24, 36, and 48 h postoperatively. Secondary outcomes were analgesic consumption, side effects, and patient satisfaction after surgery.

Results Postoperative pain intensity was significantly lower in Group TFPB compared to Group Control at rest after 3, 6, 12, 24, 36, and 48 h (p < 0.001). Morphine use was significantly lower in Group TFPB compared to Group Control during 0–24 h (14.4 ± 5.2 vs. 29.1 ± 7.3 mg, p < 0.001) and during 24–48 h (12.1 ± 3.2 vs. 18.3 ± 5.2 mg, p < 0.001) postoperatively. Incidences of nausea (4.4% vs. 21.2%, p = 0.006), vomiting (6.8% vs. 22.2%, p = 0.022), and urinary retention (9.8% vs. 28.6%, p = 0.030) were lower in Group TFPB than in Group Control.

Conclusions Ultrasound-guided TFPB block is an effective pain management technique after abdominal surgery in children.