IS ULTRASOUND TAP BLOCK USEFUL IN DAY-SURGERY FOR INGUINAL HERNIA REPAIR IN PEDIATRIC PATIENTS?

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BACKGROUND
Ultrasound transversus abdominis plane (TAP) block has been suggested to be useful in pediatric anesthesia for inguinal hernia repair (1). In our department of anesthesia we use simple anesthetic management for this procedure with inhalation anesthesia, ultrasound TAP block and LMA insertion for airway management.

METHOD
A retrospective analysis was performed in 44 male patients aged 1-6 years old undergoing inguinal hernia repair were randomly allocated to receive ultrasound-guided TA block (Group B, n=22) or balanced anesthesia with no block (Group NB, n=22). Both groups were induced with AIR/O₂/sevoflurane and maintained with 3% sevoflurane. Spontaneous ventilation with a laryngeal airway mask was maintained during surgery. If the heart or respiratory rate increased or decreased by 20% compared to the postinduction level, sevoflurane was increased or decreased at a rate of 1%. After induction, group B received ultrasound TAP block with 0.5% levobupivacaine (0.3 ml/kg) 15 min before the start of surgery. No opioids were administered in Group B, fentanyl 2 mcg/kg in Group NB. Postoperative pain and agitation were evaluated using the Behavioral Observational Pain Scale (BOPS) and the Pediatric Anesthesia Emergence Delirium Scale (PAED) at 4 time points: 0, 0.5, 1, and 4 h after the end of the anesthesia. If patients developed pain after surgery, rectal acetaminophen was administered additionally by nurses and the total number of doses of acetaminophen was recorded.

RESULTS
The duration of surgery and anesthesia in the two groups were similar. The mean $F_{EC}/F_{II}$ ratio of sevoflurane used in Group B was significantly lower than that in Group NB ($P < 0.0001$) and the average BOPS and PAED scores did not differ between the two groups. 8 patients of Group NB required rectal acetaminophen postoperatively.

CONCLUSION
Ultrasound TAP block for day surgery pediatric inguinal hernia repair allowed the use of a significantly lower amount of sevoflurane and provided more effective analgesia during the operation avoiding tracheal intubation, opioids muscle relaxants and reducing the risk of postoperative complications as apnea.

References