Opioid Sparing Laparoscopic Guided TAP Block in Laparoscopic Hernia Repair: A Case Series

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Transversus abdominis plane (TAP) block is widely used to improve postoperative analgesia following laparoscopic hernia repair. Randomized trials demonstrate that ultrasound-guided TAP blocks reduce early postoperative pain scores and opioid consumption compared to port-site infiltration. However, meta-analyses suggest that although TAP blocks are superior to no regional technique, their advantage over local infiltration remains inconsistent. Already acceptable approaches like laparoscopic-guided TAP, the "Doyle's bulge," offer a practical alternative, integrating regional analgesia into the surgical workflow while maintaining efficacy within multimodal analgesia strategies. This retrospective case series, conducted at a tertiary care hospital, evaluated the analgesic efficacy of laparoscopic-guided transversus abdominis plane (TAP) block as an adjunct to multimodal analgesia in four patients who underwent laparoscopic hernia repair. The cohort included two inguinal and two paraumbilical hernias (three elective and one emergency), with patients aged 28–63 years and body mass index (BMI) ranging from 23–41 kg/m². All procedures utilized mesh fixation with helical titanium tacks, a known contributor to early postoperative somatic pain. All patients received standardized multimodal analgesia (intravenous fentanyl, morphine, paracetamol, and diclofenac suppository) in addition to a laparoscopic-guided TAP block (Doyle's Bulge) using 0.25% plain bupivacaine (2 mg/kg; 30–60 mL). Pain was assessed using the 11-point Numerical Rating Scale (NRS) at 6, 12, and 24 hours postoperatively. A progressive reduction in mean NRS scores was observed: 3.5 (range 2–6) at 6 hours, 2.5 (1–3) at 12 hours, and 1.75 (1–3) at 24 hours. Rescue subcutaneous morphine was required in only two patients within the first 12 hours. Three patients were discharged within 28 hours, while the morbidly obese emergency case (BMI 41 kg/m²) required 60 hours. No TAP-block-related complications or local-anaesthetic toxicity were observed. These findings align with studies demonstrating reduced early postoperative pain and opioid consumption with TAP block. Pain scores were comparable or slightly favorable relative to reported ranges (NRS 3–5). However, meta-analyses suggest its advantage over infiltration remains variable. The laparoscopic-guided TAP block appears safe, feasible, and effective, warranting validation in larger trials.

Keywords: Transversus Abdominis Plane (TAP) block, laparoscopic hernia repair, multimodal analgesia, opioid-sparing anaesthesia, regional anaesthesia