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The intraperitoneal ondansetron for postoperative pain management following laparoscopic cholecystectomy: A proof-of-concept, double-blind, placebo-controlled trial

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Background: Pain after laparoscopic cholecystectomy remains a major challenge. Ondansetron blocks sodium channels and may have local anesthetic properties. Aims: To investigate the effect of intraperitoneal administration of ondansetron for postoperative pain management as an adjuvant to intravenous acetaminophen in patients undergoing laparoscopic cholecystectomy. Methods: Patients scheduled for elective laparoscopic cholecystectomy were randomized into two groups (n = 25 each) to receive either intraperitoneal ondansetron or saline injected in the gall bladder bed at the end of the procedure. The primary outcome was the difference in pain from baseline to 24-h post-operative assessed by comparing the area under the curve of visual analog score between the two groups.

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He, Q. , Zhou, C. , Zhu, Y. (2018) *BioMed Research International*Effectiveness and safety of 5-HT₃ receptor antagonists in preventing propofol injection induced pain: A meta-analysisLi, S.-Y. , Wang, X. (2013) *Chinese Journal of Evidence-Based Medicine*

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Results: The derived area under response curve of visual analog scores in the ondansetron group (735.8 ± 418.3) was 33.97% lower than ($p = 0.005$) that calculated for the control group (1114.4 ± 423.9). The need for rescue analgesia was significantly lower in the ondansetron (16%) versus in the control group (54.17%) ($p = 0.005$), indicating better pain control. The correlation between the time for unassisted mobilization and the area under response curve of visual analog scores signified the positive analgesic influence of ondansetron ($r_s = 0.315$, $p = 0.028$). The frequency of nausea and vomiting was significantly lower in patients who received ondansetron than that reported in the control group ($p = 0.023$ (8 h), and 0.016 (24 h) respectively). Conclusions: The added positive impact of ondansetron on postoperative pain control alongside its anti-emetic effect made it a unique novel option for patients undergoing laparoscopic cholecystectomy. © 2021 The Authors

Author keywords

5-HT₃ antagonists; Laparoscopic cholecystectomy; Ondansetron; Pain



Topic name

Propofol; Rocuronium; Lidocaine

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