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Evaluation of preoperative duloxetine use for postoperative analgesia following laparoscopic cholecystectomy: A randomized controlled trial

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Abstract

Background: The pain pattern after laparoscopic cholecystectomy (LC) is complex and distinct from postoperative pain after other laparoscopic procedures, suggesting that procedure-specific optimal analgesic management plans should be proposed. Duloxetine, a non-opioid neuromodulator, has been widely used to manage pain with dual central and peripheral analgesic properties. Aims: To assess the effect of preoperative administration of duloxetine compared to placebo on postoperative pain control in patients undergoing LC. Patients and Methods: This study was a randomized, parallel-group, placebo-controlled, double-blinded study performed on patients undergoing LC. Patients were randomly divided into two groups of 30 each on the day of surgery in the preoperative holding area, using a computer-generated random number to receive 60 mg duloxetine as a single oral dose 2 h before the procedure or placebo. The primary outcome was the difference in the mean of visual analogue scale (VAS) scores between the two studied groups, as measured by the area under the curve (AUC) of the VAS scores. Results: The derived AUC of VAS scores in the duloxetine group (757.89 +/- 326.01 mm x h) was significantly lower than that calculated for the control group (1005.1 +/- 432.5 mm x h). The mean postoperative VAS scores recorded at 4 and 24 h were statistically different between the study groups (p = 0.041 and 0.003, respectively). As observed in the survival curve analysis, there was no significant difference (p = 0.665) for the time until the patient's first request for rescue medications in the two groups. The frequency of postoperative nausea and vomiting (PONV) was lower in patients of the duloxetine group than that recorded in those allocated to the control group at 8 and 24-h time intervals (p = 0.734 and 0.572, respectively). Conclusion: Preoperative use of duloxetine reduces postoperative pain significantly compared with placebo. In addition, its use is associated with a reduction in PONV. These preliminary findings suggest that duloxetine could play a role in the acute preoperative period for patients undergoing LC.

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