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

Frontiers in Pharmacology • Article • Open Access • 2022 • DOI: 10.3389/fphar.2022.944392

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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 × h) was significantly lower than that calculated for the control group (1005.1 ± 432.5 mm × 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. Clinical Trial Registration: [https://clinicaltrials.gov/ct2/show/NCT05115123, identifier NCT05115123]. Copyright © 2022 Mansour, Boraii, Elnaem, Elrggal, Omar, Abdelraouf and Abdelaziz.

Author keywords

analgesia; duloxetine; laparoscopic cholecystectomy; pain; postoperative

Indexed keywords

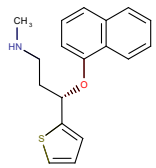
EMTREE drug terms

duloxetine; placebo

EMTREE medical terms

adult; aged; Article; blurred vision; controlled study; dizziness; double blind procedure; female; human; laparoscopic cholecystectomy; major clinical study; male; pain assessment; parallel design; postoperative analgesia; postoperative nausea and vomiting; postoperative pain; preoperative period; randomized controlled trial; receiver operating characteristic; sample size; sedation; single drug dose; treatment outcome; visual analog scale; xerostomia

Substances



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Chemicals and CAS Registry Numbers

Unique identifiers assigned by the Chemical Abstracts Service (CAS) to ensure accurate identification and tracking of chemicals across scientific literature.

duloxetine	116539-59-4, 136434-34-9, 959392-22-4

Funding details

Details about financial support for research, including funding sources and grant numbers as provided in academic publications.

Funding sponsor	Funding number	Acronym
Deanship of Scientific Research at Umm Al-Qura University	22UQU4320605DSR03	

Funding text

The authors would like to thank the Deanship of Scientific Research at Umm Al-Qura University for supporting this work. Grant Code 22UQU4320605DSR03.

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