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The effects of intravenous lidocaine on postoperative pain and recovery after gastrointestinal surgery

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 September 2023 and was last updated on 11 September 2023.

INTRODUCTION

Review question / Objective Patients: adults undergoing gastrointestinal surgery. Intervention: intravenous perioperative. Comparison: Control or standard. Outcomes: postoperative pain score, gastrointestinal function recovery, PONV, hospital stay, morphine consumption.

Condition being studied Previous meta-analyses demonstrated that intravenous lidocaine reduced postoperative pain and opioid consumption in patients undergoing spine surgery and breast surgery. However, the efficacy Intravenous lidocaine on reducing postoperative pain and gastrointestinal function recovery in patients undergoing gastrointestinal surgery remain unclear.

METHODS

Participant or population adults undergoing gastrointestinal surgery.

Intervention Perioperative intravenous lidocaine administration.

Comparator Placebo or control.

Study designs to be included Randomized controlled trials.

Eligibility criteria (1) Adult patients undergoing gastrointestinal surgery;(2) Randomized controlled trials;(3) Lidocaine was administered via the intravenous route.

Information sources Pubmed, Embase, Cochrane Library.

Main outcome(s) postoperative pain score at 24h, gastrointestinal function recovery(Time to first pass of flatus, first defecation,Bowel movement).

Additional outcome(s) PONV, pain score at other time, hospital stay, morphine consumption.

Quality assessment / Risk of bias analysis GRADE.

Strategy of data synthesis Relative risks (RRs) with 95% confidence intervals (CIs) for dichotomous outcomes and mean differences (MDs) with 95% CIs for continuous outcomes were used as summary statistics. We pooled data using random-effects models with the intention-to-treat principle. Heterogeneity across the trials were evaluated by Cochrane Q test ($P < 0.1$) and the quantitative I2 statistic ($I2 > 50\%$).

Subgroup analysis Subgroup analyses of primary outcomes according to the surgery type, Laparoscopic, PCA pump.

Sensitivity analysis To test the robustness of the results, we conducted the following sensitivity analyses: the leave-one-out method (omitting one trial each time and repeating the meta-analysis.

Language restriction English.

Country(ies) involved China.

Keywords Lidocaine, gastrointestinal function, surgery, postoperative pain, meta-analysis.

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