International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

INPLASY202460044

doi: 10.37766/inplasy2024.6.0044

Received: 12 June 2024

Published: 12 June 2024

Comparison of remimazolam and propofol on postoperative quality of recovery: a meta-analysis of randomised controlled trials

Guo, H; Huang J.

Corresponding author:
Hao Guo

xyzgmm@163.com

Author Affiliation:
Department of Anesthesiology, Renmin Hospital, Hubei University of Medicine, Shiyan, Hubei, China.

ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202460044

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 June 2024 and was last updated on 12 June 2024.

INTRODUCTION

Review question / Objective Patients : Adult surgical patients under general anesthesia. Intervention: The remimazolam group received continuous remimazolam infusions and effect-site targetcontrolled remifentanil infusions. The propofol group received effect-site target-controlled infusions of propofol and remifentanil. Comparison: remimazolam versus propofol. Outcomes: QoR40 or QoR15.

Condition being studied Remimazolam is a newly developed ultra-short-acting benzodiazepine, which has the advantages of rapid onset of action, high hemodynamic stability, and availability of reversal agents. In contrast to propofol, multiple randomized clinical trials have demonstrated its safety and efficacy as a sedative and general anesthetic. However, little is known about its impact on the prognosis of anesthesia and overall recovery after surgery, which is becoming an increasingly important aspect in determining the effectiveness of anesthetics. We performed a meta-analysis to evaluate the impact of remimazolam and propofol on quality of recovery following surgery.

METHODS

Participant or population Adult patients undergoing surgery under general anesthesia.

Intervention Received continuous remimazolam infusions during surgery.

Comparator Remimazolam versus propofol.

Study designs to be included RCTs.

Eligibility criteria Adult patients who underwent surgery under general anaesthesia; intervention, i.v. continuous infusion Remimazolam; comparator: Propofol ; and outcome, subjective quality of postoperative recovery was assessed using QoR-15, or QoR-40. Only peer-reviewed RCTs were included for analysis regardless of the language.

Information sources Pubmed. Embase, Cochrane library.

Main outcome(s) QoR-15 and or QoR-40 within 3 days after surgery.

Quality assessment / Risk of bias analysis The methodological quality and potential biases of the included studies were rigorously evaluated using the Cochrane Risk of Bias Tool version 2.0.

Strategy of data synthesis For continuous variables, effect size was expressed as mean difference (MD) or standardised MD (SMD) with corresponding 95% confidence intervals (CIs). To allow quantitative pooling and comparison of results across studies using these different scales, we transformed the reported outcomes into SMD values. SMD was calculated by dividing the MD by the standard deviation (SD) of the measurements, thereby standardising the results across studies for meta-analysis. Binary outcomes were analysed to determine pooled risk ratios (RRs) and their corresponding 95% CIs.

Subgroup analysis Subgroup analysis according to QoR15 and QoR40; Country.

Sensitivity analysis We applied a leave-one-out approach to examine the robustness of the results.

Country(ies) involved China.

Keywords Remimazolam; Propofol; QoR.

Contributions of each author
Author 1 - Hao Guo.
Author 2 - Jiao Huang.