INPLASY PROTOCOL

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Support: **None.**

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Conflicts of interest:
None declared.

Comparison of clinical effects and safety between dexmedetomidine and propofol among patients who underwent gastrointestinal endoscopy: A meta-analysis

Liu, WH[1]; Yu, WL[2]; Yu, HL[3]; Sheng, MW[4].

Review question / Objective: **To compare the clinical effects and safety between dexmedetomidine and propofol for gastrointestinal endoscopy.**
Condition being studied: **Gastrointestinal endoscopy. Relevant studies on the comparison between dexmedetomidine and propofol among patients receiving gastrointestinal endoscopy were retrieved from databases such as PubMed, Springer, Embase, Ovid, and China National Knowledge. Inclusion and exclusion criteria Studies were included if: (a) They were considered randomized controlled trials. (b) They compared dexmedetomidine and propofol. (c) They involved patients who underwent gastrointestinal endoscopy. (d) If two studies were published by the same authors, the latest data was included. Studies were excluded if: (a) They were case studies, meta-analyses, letters to editors, or otherwise unsuitable. (b) The study did not involve a comparison between dexmedetomidine and propofol. (c) Patients did not receive gastrointestinal endoscopy. (d) Data was limited or insufficient. (e) Duplicate studies.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 June 2021 and was last updated on 17 June 2021 (registration number INPLASY202160058).

INTRODUCTION

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METHODS

Search strategy: Using the following keywords: (1) dexmedetomidine or DM; (2) propofol or PF; (3) gastrointestinal endoscopy. The keywords were assembled with the Boolean operators "and" in the strategy. No restriction was set on the publication language in the literature retrieval. In order to maximize the search specificity and sensitivity, the reference lists of retrieved studies were also searched to identify any additional relevant studies.

Participant or population: Patients who underwent gastrointestinal endoscopy.

Intervention: They compared dexmedetomidine and propofol.

Comparator: They compared dexmedetomidine and propofol.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: (a) They were considered randomized controlled trials. (b) They compared dexmedetomidine and propofol. (c) They involved patients who underwent gastrointestinal endoscopy. (d) If two studies were published by the same authors, the latest data was included.

Information sources: Published articles on the comparison between dexmedetomidine and propofol among patients receiving gastrointestinal endoscopy were retrieved from the PubMed, Embase, and Cochrane.

Main outcome(s): Induction time and recovery time.

Additional outcome(s): Complications.

Quality assessment / Risk of bias analysis: The quality of the studies was assessed through the risk of bias table in the Review Manager 5.2 tutorial.

Strategy of data synthesis: Review Manager (Version 5.2, The Cochrane Collaboration, 2011) was adopted to estimate the effects of the outcomes among the selected studies. For continuous results, weighted mean differences (WMD) and 95% confidence interval (CI) were used. Relative risks (RR) and 95%CI were used for the complications. The number needed to treat (NNT) was also calculated for the complications. The heterogeneity of I^2 statistics is a quantitative method to measure the inconsistency of research. In this study, 25%-50% was considered to be low heterogeneity, 50%-75% was considered to be moderate heterogeneity, and >75% was considered to be high heterogeneity. If I^2 >50%, the potential sources of heterogeneity were analyzed by sensitivity analysis. In addition, a random-effect model was used when the heterogeneity was observed, while the fixed effect model was adopted when no heterogeneity was observed.

Subgroup analysis: The subgroup analysis of complications between the dexmedetomidine and propofol groups.

Sensitivity analysis: A funnel plot was not used to test potential publication bias because the number of studies was <10 19. Sensitivity analyses were performed to examine the robustness of the results.

Country(ies) involved: China.

Keywords: dexmedetomidine, propofol, gastrointestinal endoscopy, meta-analysis.

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