INPLASY PROTOCOL

To cite: Nair et al. Erector spinae plane block for postoperative analgesia in cardiac surgeries- a systematic review and meta-analysis. Inplasy protocol 202270105. doi: 10.37766/inplasy2022.7.0105

Received: 24 July 2022

Published: 24 July 2022

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Support: **None.**

Review Stage at time of this submission: **Preliminary searches.**

Conflicts of interest:
None declared.

Erector spinae plane block for postoperative analgesia in cardiac surgeries- a systematic review and meta-analysis

Nair, AS[1]; Saxena, P[2].

Review question / Objective: **Does ultrasound-guided erector spinae plane block provide good quality, opioid-sparing analgesia in patients undergoing cardiac surgeries when compared to no block or a sham block?**
Condition being studied: **Patients undergoing cardiothoracic surgeries who receive ultrasound-guided erector spine plane block versus no block or a sham block will be studied.**
Information sources: **Sources that will be used: electronic databases, contact with authors if necessary, trial registers, conference abstracts.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 July 2022 and was last updated on 24 July 2022 (registration number INPLASY202270105).

INTRODUCTION

Review question / Objective: **Does ultrasound-guided erector spinae plane block provide good quality, opioid-sparing analgesia in patients undergoing cardiac surgeries when compared to no block or a sham block?**

Condition being studied: **Patients undergoing cardiothoracic surgeries who receive ultrasound-guided erector spine plane block versus no block or a sham block will be studied.**

METHODS

Search strategy: **We will search: PubMed/ Medline, Embase, Cochrane Library.**

Participant or population: **Patients undergoing elective cardiovascular surgeries like coronary artery bypass grafting, valve replacement surgeries.**

Intervention: Ultrasound-guided erector spinae plane block, either single shot or continuous.

Comparator: The control group will be patients in whom no block was administered or a sham block with saline was given.

Study designs to be included: Randomized-controlled trials, Analytical retrospective studies.

Eligibility criteria: Patients undergoing cardiovascular surgeries.

Information sources: Sources that will be used: electronic databases, contact with authors if necessary, trial registers, conference abstracts.

Main outcome(s): Postoperative opioid consumption and pain scores.

Additional outcome(s): Intraoperative opioid consumption, time to first rescue analgesia, sedation score, length of stay in ICH and hospital, complications due to block, nausea/vomiting, sedation.

Quality assessment / Risk of bias analysis: The Revised Cochrane risk-of-bias tool for randomized trials (RoB 2) will be used to access the methodologic quality and risk of bias of the included trials.

Strategy of data synthesis: We will use the Mantel–Haenszel method to analyse dichotomous variables, and the risk ratio with the corresponding 95% confidence interval (CI) for the effect. The mean difference (MD) with the corresponding 95% CI was calculated for units-unified continuous outcomes. All the data were analysed with a random effect model. All statistical analyses will be performed using Review Manager version 5.4.1 (Cochrane Collaboration, Software Update, Oxford, UK), and a P value of < 0.05 was considered statistically significant. (Review Manager (RevMan) [Computer program]. Version 5.4.1, The Cochrane Collaboration, 2020.)

Subgroup analysis: If necessary, a sub-group analysis will be done using the Mantel-Haenszel method.

Sensitivity analysis: The sensitivity analysis will be done by analysing the types of outcomes, publication bias (with a funnel plot), heterogeneity, variations in interventions.

Language: The language will be restricted to English.

Country(ies) involved: Oman, India.

Keywords: Erector spinae plane block, cardiothoracic surgeries, coronary artery bypass grafting, valve replacement surgery, opioid consumption, pain scores.

Dissemination plans: Once we complete the review, we wish to compile it and submit it to review in a peer reviewed journal.

Contributions of each author:

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