Protocol

# **The Analgesic Efficacy of Serratus Anterior Plane Block on Postoperative Pain after Thoracoscopy: A Meta-Analysis of Randomized Controlled Trials.**

V 1.2 11/11/2019

**1. Review title.**

The Analgesic Efficacy of Serratus Anterior Plane Block on Postoperative Pain after Thoracoscopy: A Meta-Analysis of Randomized Controlled Trials.

**2. Anticipated or actual start date.**

11/11/2019

**3. Anticipated completion date.**

15/01/2020

**4. Stage of review at 11/11/2019.**

The review has not yet started: No

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| --- | --- | --- |
| **Review stage** | **Started** | **Completed** |
| **Preliminary searches** | Yes | No |
| **Piloting of the study selection process** | No | No |
| **Formal screening of search results against eligibility criteria** | No | No |
| **Data extraction** | No | No |
| **Risk of bias (quality) assessment** | No | No |
| **Data analysis** | No | No |

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**9. Organisational affiliation of the review.**

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**11. Review team members**

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**12. Funding sources/sponsors.**

No fundings

**13. Conflicts of interest.**

None

**14. Review question.**

What is the analgesic efficacy of serratus anterior block block compared to general anesthesia alone for video-assisted thoracoscopic surgery?

PICOS criteria: adult (aged 18 years or older) patients undergoing video-assisted thoracoscopic surgery (P); single-shot SAP block (I); general anesthesia care with or without wounds infiltration (C); analgesic efficacy measured as postoperative pain, intra and postoperative opioids consumption and intra and postoperative complications such as intraoperative hypotension, postoperative nausea and vomiting, dizziness, respiratory complications, chest tube removal and hospital length of stay(LOS) (O); randomized controlled trial (S).

**15. Searches.**

PubMed, Google Scholar, Web of Science, Cochrane Central Register of Controlled Trials (CENTRAL). We do not impose any language restrictions. we review the reference lists of all included trials for additional studies meeting our inclusion criteria.

|  |  |
| --- | --- |
| PUBMED | (“serratus anterior block” OR “serratus anterior plane block” OR “sap block”) AND (thoracoscopy OR thoracotomy OR thorax OR lung OR pulmonary). |
| GOOGLE Scholar | (“serratus anterior block” OR “serratus anterior plane block” OR “sap block”) AND (thoracoscopy OR thoracotomy OR thorax OR lung OR pulmonary). |
| ISI Web of Science | 1# TS=(serratus anterior block) OR TS=(serratus anterior plane block) OR TS=(sap block)  2# TS=(thoracoscopy OR thoracotomy OR thorax OR lung OR pulmonary).  1# AND 2# |
| CENTRAL, the  Cochrane Library | (“serratus anterior block” OR “serratus anterior plane block” OR “sap block”) AND (thoracoscopy OR thoracotomy OR thorax OR lung OR pulmonary). |

**16. Condition or domain being studied.**

Adult patients undergoing thoracoscopic surgery under general anesthesia and who receive or not a serratus anterior plane block for analgesia

**17. Participants/population.**

Adult (aged 18 years or older) patients undergoing video-assisted thoracoscopic surgery

**18. Intervention(s), exposure(s).**

Single-shot SAP block

**19. Comparator(s)/control.**

General anesthesia care with or without wounds infiltration

**20. Types of study to be included.**

Only Randomized Controlled Trial will be included

**21. Main outcome(s).**

Postoperative pain at the 6th, 12th and at the 24th hours

**22. Additional outcome(s).**

Opioid dosage both in the intraoperative setting and in the first 24 postoperative hours,, postoperative nausea/vomiting, respiratory and hemodynamic complications, length of stay in hospital (days) and timing of chest-tube removal (days).

**23. Data extraction (selection and coding).**

Two reviewers will screen the titles and abstracts of the identified papers in order to identify relevant and not-relevant papers. Each citation will be review in duplicate by two of the reviewers, with full-text retrieval of any citation that either reviewer considered potentially relevant. After identifying those studies that met our inclusion criteria two members of our team will review and assess each of the included studies independently. A third investigator will intervene when discrepancies occurred. If data were missing, a request was sent by mail to the corresponding author of the study. If no response was received after our initial request, a second request was sent one week later. A third and last request was sent one week after the second one.

**24. Risk of bias (quality) assessment.**

Two authors independently will read all included randomized comparative studies and evaluated the quality using two tools: the Jadad Scale and the Risk of Bias 2 Tool for Randomized Controlled Trials. We will use the GRADE approach to assess the quality of evidence related to each of the key outcomes. We will downgrade the evidence from “high quality” by one level for serious, or by two for very serious study limitations (risk of bias), indirectness of evidence, serious inconsistency, imprecision of effect estimates or potential publication bias.

**25. Strategy for data synthesis.**

Provide details of the planned synthesis including a rationale for the methods selected. This must not be generic text but should be specific to your review and describe how the proposed analysis will be applied to your data.

Meta-analyses will be performed with the review manager software (revman version 5.3.5, Copenhagen, the Nordic Cochrane Center, the Cochrane collaboration 2014). A meta-analysis will be conducted if three or more trials report the same outcome of interest. the coefficient I² will be used to assess heterogeneity with predetermined thresholds for low (25 - 49 %), intermediate (50 - 74 %) and high ( 75 %) levels. a random effects model will be used in case of intermediate or high heterogeneity, otherwise a fixed effects model will be used.The likelihood of publication bias will be assessed for our primary outcome by drawing a funnel plot

**26. Analysis of subgroups or subsets.**

If a moderate or high level of heterogeneity will be noted, subgroup analysis may be performed in order to explore heterogeneity cause. Considering the strict inclusion criteria we identify low quality studies and different local anesthetic concentration as possible causes of heterogeneity.