INPLASY PROTOCOL

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Review Stage at time of this submission: Data extraction.

Conflicts of interest: None declared.

The analgesic efficacy of regional anesthesia using local anesthetic alone versus local anesthetic plus adjuvants for craniotomy: a systematic review

Pang, Q[1]; Wang, J[2]; Liu, H[3].

Review question / Objective: To evaluate the analgesic efficacy of regional anesthesia using local anesthetic alone versus local anesthetic plus adjuvants for craniotomy.

Condition being studied: Scalp nerve block(SNB) or local incision infiltration(LII) is commonly used in craniotomy to reduce postoperative pain, either with or without adjuvants, but some researches showed that some adjuvants may be ineffective or might cause some complications. There is no final conclusion whether to use adjuvants or not and which kind to use.

Eligibility criteria: (a). Studies reporting the analgesic efficacy of regional anesthesia using local anesthetic alone versus local anesthetic plus adjuvants. (b). Studies with patients undergoing neurosurgery or craniotomy without age restriction. (C). Studies using the adjuvants locally administered with local anesthetics. (D). The local anesthetic and concentration between groups should be the same. (E). Randomized controlled studies.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 March 2022 and was last updated on 11 March 2022 (registration number INPLASY202230044).

INTRODUCTION

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might cause some complications. There is no final conclusion whether to use adjuvants or not and which kind to use.

METHODS

Participant or population: Patients who underwent craniotomy.

Intervention: Local anesthesia with adjuvent.

Comparator: Local anesthesia alone.

Study designs to be included: RCT.

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Information sources: Pubmed, Cochrane Library, Embase, and Web of Science.

Main outcome(s): The major outcomes of interest were recorded, which included intraoperative propofol and opioids consumption, postoperative pain scores, the time to first rescue analgesia after surgery, intraoperative and postoperative hemodynamics, and postoperative opioids consumption.

Quality assessment / Risk of bias analysis: The risk of bias was checked by appraising the inclusion of phrases such as "adequate sequence generation", "allocation concealment", "blinding", "incomplete outcome data addressed", "free of selective reporting" and "free of other bias", as recommended by the Cochrane Collaboration.

Strategy of data synthesis: The effect size for continuous data was expressed as the mean difference (MD) with 95% confidence interval (CI). The effect size for

dichotomous outcomes was expressed as odds ratio(OR) with 95% CI. Between-study heterogeneity was qualified with the I2 value, a fixed effect model was used in the case of homogeneity (I2 < 50%), and a random effect model was chosen in the case of heterogeneity (I2 ≥ 50%).

Subgroup analysis: Subgroup comparisons were performed when necessary to identify the sources.

Sensitivity analysis: Sensitivity analysis was also performed to test the robustness of the meta-analysis results.

Country(ies) involved: China.

Keywords: regional anesthesia, craniotomy, adjuvants, analgesia.

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