

INPLASY

Effect Of Pericapsular Nerve block (PENG) versus supra-inguinal fascia iliaca Block (SIFIB) for patients undergoing hip surgery:A Systematic Review And Meta-Analysis

INPLASY202480009

doi: 10.37766/inplasy2024.8.0009

Received: 02 August 2024

Published: 02 August 2024

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ADMINISTRATIVE INFORMATION

Support - The Natural Science Foundation of Shaanxi province 2021JQ-918; Key research and development program of Shaanxi province 2024SF-YBXM-05.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480009

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 August 2024 and was last updated on 02 August 2024.

INTRODUCTION

Review question / Objective Hip surgery can be painful; postoperative analgesia is important for easy and facilitate recovery. Ultrasound-guided peripheral nerve block is common postanalgesic strategy, which is used to relieve pain, decrease opioids consumption, reduce complications, promote the rehabilitation. Pericapsular nerve block (PENG) and supra-inguinal fascia iliaca Block (SIFIB) are relative new peripheral nerve block for hip surgery. This system review and meta-analysis aims to evaluate which block performs better in analgesia, facilitate recovery for hip surgery.

Condition being studied PENG and SIFIB are two regional blocks for hip surgery in nowadays. However, we have no idea whether PENG or SIFIB performs better. There are several RCTs studying it, which were published in recent

years. It is time to conduct a system review and meta-analysis to answer the question.

METHODS

Participant or population Adult patients undergoing hip surgery, ASA1-3.

Intervention PENG: patients were placed in the supine position. The US transducer was placed in a transverse orientation, medial, and caudal to the anterosuperior iliac spine in order to identify the anteroinferior iliac spine, the iliopubic eminence, and the psoas tendon.

Comparator SIFIB is conducted as follows. Patients were placed in the supine position. The US transducer was placed in a parasagittal orientation, medial to the anterosuperior iliac spine in order to obtain the "bow-tie" sign.

Study designs to be included Only RCTs will be included.

Eligibility criteria All published RCTs comparing the analgesic efficacy of PENG with SIFIB in adult patients undergoing hip surgeries were eligible for inclusion. There were no language restrictions, Moreover, we also excluded case reports, non-RCT studies, incomplete clinical trials. We also excluded any conference abstracts which could not offer enough information about the study design, or by data request to the author.

Information sources The following data base will be used in this study: pubmed, embase, web of science and chcorane library. If needed, we will contact with authors for information which can not be extracted in the original article.

Main outcome(s) Pain scores in 24h after surgery.

Additional outcome(s) Second outcomes: cultimitive oral morphine equivalents in 24h, pain score during spinal anesthesia positioning; EOOSP; BROMAGE.

Quality assessment / Risk of bias analysis Methodological quality assessment was independently assessed, if any disagreements then resolved by a third author, according to the Cochrane risk of bias tool and Jadad score.

Strategy of data synthesis Reviewer Manager 5.1.4 will be used for strategy of data synthesis. R and Stata 15 will also be used if Reviewer Manager can not process the data.

Subgroup analysis Subgroup analysis will be done according to different anesthesia.

Sensitivity analysis Reviewer Manager 5.1.4 will be used for sensitivity analysis.

Country(ies) involved China.

Keywords hip surgery; Effect Of Pericapsular Nerve group (PENG); supra-inguinal fascia iliaca Block (SIFIB); ultrasound-guided; postoperative analgesia; opioid; motor block.

Contributions of each author

Author 1 - Yao Xi - design; data synthesis and analysis; drafting article; revision of article, risk of bias analysis, search and selection of literature.

Author 2 - Na Li - data synthesis and analysis; search and selection of literature.

Author 3 - Jiao Guo - revision of article, risk of bias analysis, search and selection of literature.

Author 4 - Jianfei Zhu - data extraction, synthesis and analysis.

Author 5 - Hui Wang - data extraction, synthesis and analysis.

Author 6 - Zhao Xu - revision of article, risk of bias analysis, search and selection of literature.