INPLASY PROTOCOL

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Review Stage at time of this submission: **The review has not yet started**

Conflicts of interest: **None.**

Anesthetic efficacy of propofol combined butorphanol in laparoscopic surgery for ectopic pregnancy: a protocol of systematic review and meta-analysis

Chang WY[1]; Li HY[2].

Review question / Objective: **Does propofol combined butorphanol (PB) have anesthetic efficacy in laparoscopic surgery (LS) for ectopic pregnancy (EP)?**
Condition being studied: **Ectopic pregnancy; laparoscopic surgery; propofol; butorphanol.**
Information sources: **We will comprehensively search following databases from inception to the present: MEDLINE, EMBASE, Cochrane Library, PsycINFO, Global Health, Web of Science, Allied and Complementary Medicine Database, and China National Knowledge Infrastructure. All electronic databases will be searched without limitations of language and publication status. The search terms include ectopic pregnancy, extrauterine pregnancy, surgery, operation, laparoscopic surgery, pain intensity, anesthetic effect, propofol, Anesthesia S/I-60, Anesthesia S/I-40, Anesthesia S/I-40A, butorphanol, and stadol. To avoid missing any potential studies, we will also search grey literature, such as conference abstracts, and references to the relevant reviews.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 April 2020 and was last updated on 08 April 2020 (registration number INPLASY202040044).

INTRODUCTION

Review question / Objective: **Does propofol combined butorphanol (PB) have anesthetic efficacy in laparoscopic surgery (LS) for ectopic pregnancy (EP)?**

Condition being studied: **Ectopic pregnancy; laparoscopic surgery; propofol; butorphanol.**

METHODS

Participant or population: **All female participants who were diagnosed with EP using LS and have received PB will be included in this study with no restrictions of country, race, and age.**

Intervention: **In the experimental group, all patients received PB intervention.**

Comparator: In the control group, all participants underwent any interventions, except PB.

Study designs to be included: We will review randomized controlled trials (RCTs) of anesthetic effect and safety of PB in LS for EP for inclusion.

Eligibility criteria: We will include RCTs that compared the anesthetic effect and safety of PB with other anesthetic interventions in LS for EP.

Information sources: We will comprehensively search following databases from inception to the present: MEDLINE, EMBASE, Cochrane Library, PsycINFO, Global Health, Web of Science, Allied and Complementary Medicine Database, and China National Knowledge Infrastructure. All electronic databases will be searched without limitations of language and publication status. The search terms include ectopic pregnancy, extrauterine pregnancy, surgery, operation, laparoscopic surgery, pain intensity, anesthetic effect, propofol, Anesthesia S/I-60, Anesthesia S/I-40, Anesthesia S/I-40A, butorphanol, and stadol. To avoid missing any potential studies, we will also search grey literature, such as conference abstracts, and references to the relevant reviews.

Main outcome(s): The primary outcome includes pain intensity, as measured by any pain scales, such as numerical rating scales.

Additional outcome(s): The secondary outcomes consist of analgesic consumption; concurrent medication; laboratory parameters; quality of life, as checked by any relevant tools, such as 36-Item Short Form Survey; and any adverse events.

Data management: Two authors will independently extract data based on the standard previous defined data extraction sheet to ensure the integrity of the process. Any different views between two authors will be solved by a third author through discussion. The following information will be extracted: study title, first author, year of publication, country, inclusion and exclusion criteria, diagnostic criteria, race, age, sample size, study setting, study methods, treatment details, outcome measurements, safety and any other relevant information. If any data are missing or unclear, we will contact original authors to obtain or clarify it.

Quality assessment / Risk of bias analysis: We will evaluate the risk of bias from the entered studies using Cochrane risk of bias tool for RCTs, and all seven relevant fields of bias will be checked. Each one will be further identified as low, unclear or high risk of bias. Two authors will independently assess the risk of bias, and any discrepancies between two authors will be examined by a third author through discussion to make a decision.

Strategy of data synthesis: We will apply RevMan 5.3 software to perform statistical analysis. All dichotomous data will be calculated using risk ratio and 95% confidence intervals (CIs), while all continuous data will be expressed using mean difference or standardized mean difference and 95% CIs. We will I^2 statistics to identify potential heterogeneity among included studies and will be explained as follows: $I^2 \leq 50\%$ means low heterogeneity, and a fixed-effects model will be imposed; while $I^2 > 50\%$ exerts obvious heterogeneity, and a random-effects model will be used. If low heterogeneity will be found among the eligible studies, we will perform meta-analysis on the same interventions, controls and outcomes. If obvious heterogeneity will be identified, we will carry out subgroup analysis to check if there are some possible reasons for such obvious heterogeneity. In addition, if it is possible, we will undertake a narrative description of the outcome results.

Subgroup analysis: Subgroup analysis will be undertaken based on the different study and patient characteristics, study quality, treatments, controls, and outcomes.

Sensibility analysis: Sensitivity analysis will be carried out to check the stability of outcome results by removing low quality studies.

Country(ies) involved: China.

Keywords: Ectopic pregnancy; laparoscopic surgery; propofol; butorphanol; anesthetic effect; safety.