

INPLASY PROTOCOL

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None declared.

Effectiveness of acupuncture on gastrointestinal function in patients after laparoscopic cholecystectomy: A protocol for systematic review and meta-analysis

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Review question / Objective: The aims are to evaluate the effect of acupuncture on the recovery of gastrointestinal function after LC and to provide the latest literature basis for clinical comprehensive decision-making.

Condition being studied: Laparoscopic cholecystectomy (LC) is currently the most commonly used surgical method to treat benign gallbladder diseases such as gallbladder stones, gallbladder polyps, and cholecystitis. Common postoperative complications are mainly gastrointestinal reactions such as abdominal pain, bloating, diarrhea, nausea and vomiting. Acupuncture can regulate gastrointestinal function. This study aimed to evaluate the effectiveness of acupuncture on gastrointestinal function in patients after laparoscopic cholecystectomy.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 May 2021 and was last updated on 24 May 2021 (registration number INPLASY202150086).

INTRODUCTION

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diarrhea, nausea and vomiting. Acupuncture can regulate gastrointestinal function. This study aimed to evaluate the effectiveness of acupuncture on gastrointestinal function in patients after laparoscopic cholecystectomy.

METHODS

Participant or population: All patients with LC, regardless the age, gender, race, country and diseases.

Intervention: Patients in experimental group used any acupuncture treatments, such as body acupuncture, electro-acupuncture, auricular acupuncture, warm acupuncture, fire needling, elongated needle and moxibustion. Neither the number of treatments nor the length of treatment will be restricted in this review.

Comparator: Patients in control group used general care, sham acupuncture, placebo, physical/mental training therapy, adjuvant chemotherapy or other pharmacotherapy

Study designs to be included: RCTs.

Eligibility criteria: 1 Type of studies All randomized controlled trials (RCTs) reported will be included without regional and language restrictions. Animal studies, cohort studies, case-controlled studies, case reports and expert experience will be excluded. 2 Type of participants All patients with LC, regardless the age, gender, race, country and diseases. 3 Type of interventions Patients in experimental group used any acupuncture treatments, such as body acupuncture, electro-acupuncture, auricular acupuncture, warm acupuncture, fire needling, elongated needle and moxibustion. Neither the number of treatments nor the length of treatment will be restricted in this review. 4 Type of comparators Patients in control group used general care, sham acupuncture, placebo, physical/mental training therapy, adjuvant chemotherapy or other pharmacotherapy. 5 Types of outcome measures The Primary outcomes were the first exhaust time and the first defecation time. The secondary outcomes

were the abdominal distension score, degree of nausea, and the incidence of diarrhea within 1 week after surgery.

Information sources: 1. Electronic searches A comprehensive search of 8 electronic databases will be performed including PubMed, Cochrane library, Web of Science, Embase, China National Knowledge Infrastructure(CNKI), Wanfang Database, Chinese Scientific Journal Database (VIP) , and Chinese Biomedical Literature Database (CBM) from setup time to 30 March 2021. The search strategy will contain both LC and acupuncture treatments including“Laparoscopic Cholecystectomy”, “Cholecystectomy, Laparoscopic”, “acupuncture”, “electroacupuncture”, “ warm acupuncture”, “auricular acupuncture”, “acupuncture therapy” and similar terms. MeSH terms were used and combined with free-text words. Search strategy will be adjusted depending on each database. 2. Searching other resources We will search the International Clinical Trials Registry Platform (ICTRP), Chinese Clinical Trial Registry, Clinical Trials gov to identify any potentially eligible studies.

Main outcome(s): The first exhaust time and the first defecation time.

Additional outcome(s): The abdominal distension score, degree of nausea, and the incidence of diarrhea within 1 week after surgery.

Quality assessment / Risk of bias analysis: There are 2 reviewers using the Cochrane Collaboration to assess the quality of articles. It includes the following 7 domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting and other sources of bias. Each domain includes a judgment of low (meeting all criteria), high (meeting none of criteria) and unclear (insufficient information to judge) risk of bias according to information provided by authors. Any disagreements between reviewers will be

resolved through discussion with a third reviewer.

Strategy of data synthesis: For continuous outcomes, it will be evaluated by Mean difference (MD) or standardized mean difference (SMD), and the risk ratio (RR) will be used to assess the treatment effect for dichotomous outcomes. Respectively, I^2 will be used to statistic heterogeneity, It is regarded as the boundary that if $I^2 < 40\%$, a fixed will be more suitable, if $I^2 \geq 40\%$ and $< 75\%$, a random effect model will be performed, otherwise, there is considerable heterogeneity between studies.

Subgroup analysis: The subgroup analysis will be conducted if there is obviously substantial heterogeneity between the study results, following items will be considered: type of acupuncture, gender, age, and outcome styles.

Sensitivity analysis: We will perform the sensitivity analysis to verify the robustness of the results. It includes the impact of methodological quality, study design and sample size.

Country(ies) involved: China.

Keywords: laparoscopic cholecystectomy, benign gallbladder disease, acupuncture, gastrointestinal function.

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