

# INPLASY PROTOCOL

To cite: Wang et al.  
Laparoscopic Versus  
Conventional Open Treatment  
of Liver Hydatid: A Systematic  
Review and Meta-analysis of  
Cohort Studies. Inplasy  
protocol 202210059. doi:  
10.37766/inplasy2022.1.0059

Received: 12 January 2022

Published: 12 January 2022

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**Support:** Thousand Talents  
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**Review Stage at time of this  
submission:** Data analysis -  
Completed but not published.

**Conflicts of interest:**  
None declared.

## Laparoscopic Versus Conventional Open Treatment of Liver Hydatid: A Systematic Review and Meta-analysis of Cohort Studies

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**Review question / Objective:** With the popularity of laparoscopy and minimally invasive technology, laparoscopy has been applied to hepatic echinococcosis. However, the safety and efficacy of traditional laparotomy and laparoscopy are unclear. This study aimed to explore the advantages and disadvantages of laparoscopy and traditional laparotomy with a Meta-analysis. To compare the efficacy and safety of laparoscopic with that of traditional laparotomy.

**Condition being studied:** There still exist controversies about the advantages and disadvantages of laparoscopic and traditional open surgery.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 January 2022 and was last updated on 12 January 2022 (registration number INPLASY202210059).

### INTRODUCTION

**Review question / Objective:** With the popularity of laparoscopy and minimally invasive technology, laparoscopy has been applied to hepatic echinococcosis. However, the safety and efficacy of traditional laparotomy and laparoscopy are unclear. This study aimed to explore the

advantages and disadvantages of laparoscopy and traditional laparotomy with a Meta-analysis. To compare the efficacy and safety of laparoscopic with that of traditional laparotomy.

**Rationale:** Statistical analyses of the data were conducted using the Manager5.3 software. Two classification variables were

expressed by odds ratio (OR) and 95% confidence interval (CI). Continuous variables were expressed by standardized mean difference (SMD) and 95% CI. According to I-square value, the heterogeneity between different studies is low when tested with the fixed-effect model,  $I^2 < 50\%$ ;  $I^2 \geq 50\%$  suggests that the heterogeneity between studies is high. The causes of heterogeneity were analyzed, and the pooled estimates were calculated using random-effects models to take into account potential inter-study heterogeneity and to adopt a more conservative approach.

**Condition being studied:** There still exist controversies about the advantages and disadvantages of laparoscopic and traditional open surgery.

## METHODS

**Participant or population:** Patients with hepatic echinococcosis who must undergo laparoscopic surgery or open surgery.

**Intervention:** No.

**Comparator:** Manager5.3.

**Study designs to be included:** Studies type is the case-control studies, prospective or retrospective cohort study comparing laparoscopic surgery and open surgery.

**Eligibility criteria:** (i) participants: patients with hepatic echinococcosis who must undergo laparoscopic surgery or open surgery; (ii) studies type is the case-control studies, prospective or retrospective cohort study comparing laparoscopic surgery and open surgery; (iii) outcomes: studies reporting the operation time, time of the analgesic drugs in postoperative, the incidence of postoperative complications (such as bile leakage and residual cavity infection), recurrence rate, postoperative time of abdominal drainage tube removal, etc.

**Information sources:** CNKI, Wanfang Database, CBM, PubMed, Embase,

Medline, The Cochrane Library, Web of Science.

**Main outcome(s):** Time to surgery, time to analgesic medication, the recovery time to gastrointestinal function, complications (bile leak, biliary fistula, incisional wound infection, residual cavity infection), length of stay, hospitalization fee, time to abdominal drainage tube removal, and the number of recurrent cases.

**Quality assessment / Risk of bias analysis:** The Newcastle-Ottawa Scale (NOS) was used to assess the quality of included studies.

**Strategy of data synthesis:** We extracted the data and analyzed it with Manager5.3 software

**Subgroup analysis:** If the heterogeneity of articles is large, subgroup analysis is used when necessary

**Sensitivity analysis:** Changing inclusion criteria (especially controversial studies), excluding low-quality studies, using different statistical methods/models to analyze the same data, etc.

**Country(ies) involved:** China.

**Keywords:** Liver hydatid, Laparoscopic Surgery, Open Surgery, Meta-analysis.

## Contributions of each author:

Author 1 - Zheng Wang.  
 Author 2 - Hai-Hong Zhu.  
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 Author 4 - Yan Wang.  
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