

INPLASY PROTOCOL

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None declared.

The curative effect of laparoscopic single port and traditional laparoscopic treatment of uterine leiomyoma: meta-analysis

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Review question / Objective: Single-port laparoscopy has been proposed as an ideal surgical method for treating uterine leiomyoma, which can effectively remove the lesion, reduce hemoglobin loss, and achieve good cosmetic results. Therefore, we retrieved related studies for a meta-analysis to evaluate the effects of single-hole laparoscopic resection of uterine fibroids, haemoglobin loss, and scar cosmetic effect. **Eligibility criteria:** (1) the type of study should be a randomized controlled study; (2) the participants should be women receiving single-hole laparoscopic laparoscopy or conventional laparoscopy; (3) the type of intervention, which should compare single-hole laparoscopic laparoscopy with uterine leiomyoma, and excluding the study with conventional laparoscopy, and (4) regarding the type of outcome, the study should measure at least one outcome of interest mentioned below.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 March 2023 and was last updated on 20 March 2023 (registration number INPLASY202330071).

INTRODUCTION

Review question / Objective: Single-port laparoscopy has been proposed as an ideal surgical method for treating uterine leiomyoma, which can effectively remove the lesion, reduce hemoglobin loss, and achieve good cosmetic results. Therefore, we retrieved related studies for a meta-analysis to evaluate the effects of single-hole laparoscopic resection of uterine

fibroids, haemoglobin loss, and scar cosmetic effect.

Rationale: Recognizing that a single clinical study provided a limited grade of evidence, we performed this meta-analysis to determine the outcome analysis of scar beauty, intraoperative hemoglobin loss, postoperative complications, length of stay and pain score in single-hole laparoscopic myomectomy.

Condition being studied: The curative effect of laparoscopic single port and traditional laparoscopic treatment of uterine leiomyoma.

METHODS

Search strategy: Combination of text and MeSH terms: ("single port" and "uterine leiomyoma"). The complete retrieval used for PubMed is: single port [MeSH term] or single incision [text word] or unit point [text word] and uterine leiomyoma [text word] or uterine fibroids [text word] or robot [text word].

Participant or population: uterine leiomyoma.

Intervention: single-hole laparoscopy and porous laparoscopy.

Comparator: Operation time, the reduced amount of hemoglobin, and the cosmetic effect of the postoperative scarsingle-hole laparoscopy and porous laparoscopy.

Study designs to be included: Randomized controlled clinical trial (RCT); Prospective clinical trial; Retrospective clinical study.

Eligibility criteria: (1) the type of study should be a randomized controlled study; (2) the participants should be women receiving single-hole laparoscopic laparoscopy or conventional laparoscopy; (3) the type of intervention, which should compare single-hole laparoscopic laparoscopy with uterine leiomyoma, and excluding the study with conventional laparoscopy, and (4) regarding the type of outcome, the study should measure at least one outcome of interest mentioned below.

Information sources: databases of Embase, PubMed, Cochrane, Web of Knowledge and CNKI.

Main outcome(s): The main outcome is the total operation time (the time from the first skin incision to the last port skin closure), estimated blood loss (EBL), hemoglobin changes (postoperative Hb level decline

defined as the operation morning Hb level and the first day Hb level difference), pain score and cosmetic satisfaction.surgical operation time, blood loss, amount of hemoglobin change, pain score, and cosmetic effects

Additional outcome(s): Secondary outcomes were length of hospital stay, time of first gastrointestinal activity (period from the end of anesthesia to the first occurrence of intestinal gas channels), conversion rate, blood transfusion, fever (temperature 38°C, at least 6 hours apart in two consecutive sessions, except for the first 24 hours), and time of first postoperative walking.

Data management: I² values greater than 50% were considered more heterogeneous. A random effects model is used for heterogeneity between studies; if I² <50%, a fixed effects model is used.

Quality assessment / Risk of bias analysis: GRADE risk assessment system.

Strategy of data synthesis: The meta-analysis were performed using Review Manager 5.4 (Cochrane Collaboration, Oxford, UK). The SMD (standardized mean difference) and the overall relative hazard (OR) were used to compare the continuous and dichotomized variables, respectively. All the results are reported in a 95% confidence interval (CI).

Subgroup analysis: No subgroup analysis was performed.

Sensitivity analysis: The sensitivity analysis of a study was used to estimate the impact of high risk of bias studies on the overall effect.

Language restriction: No language restrictions were imposed.

Country(ies) involved: China.

Keywords: single-hole laparoscopic; uterine leiomyoma ; surgery time.

Contributions of each author:

Author 1 - Yanhui Li.