

INPLASY PROTOCOL

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None declared.

Safety and Efficacy of overlap esophagojejunostomy During Totally Laparoscopic Total Gastrectomy: A Systematic Review and Meta Analysis

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Review question / Objective: Safety and efficacy of overlap method for esophagojejunal reconstruction using totally laparoscopic total gastrectomy.

Condition being studied: There is no consensus on the best method for esophagojejunostomy. In the present study, we evaluate systematically and comprehensively the difference in the efficacy of totally laparoscopic total gastrectomy with esophagojejunostomy Overlap method and other methods of anastomosis by means of meta-analysis.

Information sources: Relevant studies from PubMed, Embase, Cochrane Library, Web of Science, Chinese National Knowledge Infrastructure, and Wanfang Databases were systematically reviewed by two authors independently. This meta-analysis included studies comparing overlap method with other anastomosis methods in totally laparoscopic total gastrectomy from January 2011 to January 2021 without language restrictions.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 January 2022 and was last updated on 02 January 2022 (registration number INPLASY202210009).

INTRODUCTION

Review question / Objective: Safety and efficacy of overlap method for esophagojejunal reconstruction using totally laparoscopic total gastrectomy.

Condition being studied: There is no consensus on the best method for esophagojejunostomy. In the present study, we evaluate systematically and comprehensively the difference in the efficacy of totally laparoscopic total

gastrectomy with esophagojejunostomy Overlap method and other methods of anastomosis by means of meta-analysis.

METHODS

Search strategy: Relevant studies from PubMed, Embase, Cochrane Library, Web of Science, Chinese National Knowledge Infrastructure, and Wanfang Databases were systematically reviewed by two authors independently. This meta-analysis included studies comparing overlap method with other anastomosis methods in totally laparoscopic total gastrectomy from January 2011 to January 2021 without language restrictions.

Participant or population: Totally laparoscopic total gastrectomy with esophagojejunostomy Overlap method.

Intervention: There are multiple ways of intracorporeal esophagojejunostomy. The reconstruction methods of applying linear staplers include a functional end-to-end anastomosis (FEEA), an overlap technique and π -shaped esophagojejunostomy. The circular stapled reconstruction methods include a circular-stapled esophagojejunostomy using hand-sewn purse-string suture, a transorally inserted anvil (OrViITM) and a reverse puncture device (RPD). Although Overlap acts as a common linear anastomosis method for surgeons, the specific choice depends on the surgeon's experience and preference. To correctly answer the question, analysis of clinical results with esophago-jejunostomy methods in TLTG between overlap and others is warranted. Overlap or modified Overlap anastomosis method compared with other anastomosis methods

Comparator: Overlap or modified Overlap anastomosis method compared with other anastomosis methods.

Study designs to be included: Retrospective cohort studies.

Eligibility criteria: Inclusion criteria were as follows: (1) the subjects were all patients after totally laparoscopic total gastrectomy

with esophagojejunostomy; (2) all studies involved the efficacy of the Overlap or modified Overlap anastomosis method compared with other anastomosis methods; (3) the study types were retrospective and prospective research, as well as randomized controlled trials (RCTs); (4) the original literature included surgery-related indicators, postoperative complications, postoperative recovery or at least one of them; (5) pooled results can be formulated by the statistical index, such as OR, relative risk or weighted mean difference (WMD); (6) for the literature of the same author or institution, the literature with higher quality or recent years was selected for statistics. Exclusion criteria were as follows: (1) the literature was a case report, case series, letters, review or non-control study without a control group; (2) the necessary data in the literature are missing or incomplete; (3) the studies included laparoscopic-assisted or hand-assisted gastrectomy; (4) the sample size was too small, and the number of cases was less than 20 cases.

Information sources: Relevant studies from PubMed, Embase, Cochrane Library, Web of Science, Chinese National Knowledge Infrastructure, and Wanfang Databases were systematically reviewed by two authors independently. This meta-analysis included studies comparing overlap method with other anastomosis methods in totally laparoscopic total gastrectomy from January 2011 to January 2021 without language restrictions.

Main outcome(s): The extracts included: (1) basic data: title, country, first author, and year of publication; (2) case characteristics: including the number of cases, general condition of patients, and other relevant indicators; (3) surgery-related indicators (operation time, anastomosis time, intraoperative bleeding and number of lymph node dissection), postoperative complications (anastomotic leak, anastomotic stenosis, and anastomotic bleeding), postoperative recovery (postoperative hospital stay, time to first exhaustion, postoperative pulmonary infection and mortality).

Quality assessment / Risk of bias analysis:

The basic information and observation indicators of the included articles were extracted, and the literary quality of retrospective studies and prospective randomized controlled studies was assessed by Newcastle-Ottawa Quality Assessment Scale (NOS). Review Manager 5.3 software was used to produce forest plots for Meta-analysis, funnel plots were used to assess publication bias, and sensitivity analysis was performed to evaluate the stability of the results.

Strategy of data synthesis: The statistical analysis was performed by use of RevMan5.3 software. The odds ratio (OR) and weighted mean difference (WMD) with their corresponding 95 % confidence intervals (CI) were used to analyze dichotomous and continuous variables. Differences were considered statistically significant at a P-value <0.05. The Chi-square and I² tests were used to assess statistical heterogeneity. P0.10 and I²50%. The funnel plot was used to evaluate publication bias.

Subgroup analysis: None.

Sensitivity analysis: A sensitivity analysis was performed by excluding one study in turn to assess whether individual research influenced pooled ORs or WMDs.

Language: English.

Country(ies) involved: China.

Keywords: Laparoscopy; Gastrectomy; Esophagojejunostomy; Complication; Meta-analysis.

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