

The efficiency and safety of side to end anastomosis for rectal reconstruction after low anterior resections: a meta-analysis of randomized controlled trials

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Review question

It is reported 52%-76% of patients will suffer anorectal dysfunctions including fecal incontinence, urgency, frequency, constipation from low anterior resections (LAR) with total mesorectal excision (TME). The combination of abnormal clinical manifestations after LAR was referred as "low anterior resection syndrome (LARS)". Side to end anastomosis (SEA) is one of rectal reconstructions in low anterior resections. Some literatures have proved that side to end anastomosis can alleviate LARS. As the evidence of the evaluation of SEA was limited, we aimed to carry out a meta-analysis to investigate the safety and efficiency of SEA compared with colonic J-pouch anastomosis (CJP) and straight colorectal anastomosis (SCA).

Searches

PubMed, Cochrane, Web of Science, and Embase will be searched. Only literatures in English will be enrolled.

Types of study to be included

RCT.

Inclusion criteria: (1) studies included SEA group and at least a control group; (2) results including at least one outcome of interest.

Exclusion criteria: (1) less than 10 patients; (2) studies from the same institution or with overlapping patients;(3) not in English.

Condition or domain being studied

bowel reconstruction in rectal surgery

Participants/population

Inclusion criteria:(1) rectal cancer patients were clinically diagnosed and were performed sphincter-preserving surgery; (2) age?18

Exclusion criteria: (1) loss to follow-up (less than 3 months)

Intervention(s), exposure(s)

Side to end anastomosis in low anterior resections.

Comparator(s)/control

Colonic J pouch anastomosis and straight colonic anastomosis

Main outcome(s)

Main outcomes: (1)results of anorectal function after SEA (including the times of bowel movements during daytime and night, fecal incontinence, defecation incomplete, use of pad, enema, and son on);(2) surgical complications of SEA.

* Measures of effect

relative risks, odds ratios, WMD

Additional outcome(s)

the pressure and volume of "new-rectum" after SEA

* Measures of effect

relative risks, odds ratios, WMD

Data extraction (selection and coding)

Two investigators independently will review the titles and abstracts of all citations identified by the literature search. Eligible articles are reviewed for a duplicate in an independent manner by the two investigators.

Disagreement in data extraction is resolved by consensus.

Two authors independently extracted the following data: study demographics and characteristics, including: (1) first author, (2) publication year, (3) study design, (4) demographic of patients, (5) country, (6) multicenter or not, (7) date of inclusion, (8) tumor height (cm) (9) tumor stage, (10) neoadjuvant and adjuvant therapies; safety outcomes, including: (1) operation time (min), (2) blood loss (ml), (3) length of hospital stay (days), (4) time to flatus (days), (5) time to liquid (days), (6) time to soft diet (days), and (7) number of patients with postoperative complications; and efficiency outcomes, including: (1) number of bowel movements, (2) defecation frequency or not, (3) defecation incomplete or not, (4) use pad or not, (5) use medicine or not, (6) urgency or not and so on

Risk of bias (quality) assessment

We use a funnel plot to detect publication bias concerning this meta-analysis, with the symmetry of the funnel plot used to determine whether publication bias occurred. Furthermore, a formal statistical assessment of the funnel plot asymmetry is performed with Begg's regression asymmetry test.

Strategy for data synthesis

All statistical analyses will be conducted using the statistical software Stata (version 16). The mean difference, standard deviation, and standard error of the surgical time, blood loss, bowel movements are used for the meta-analysis. The number of adverse events happened and not happened will be analyzed to evaluate anorectal function and surgical complications.

Analysis of subgroups or subsets

neoadjuvant therapy, tumor stage, sex, and preoperative anorectal function.

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Type and method of review

Intervention, Meta-analysis, Systematic review

Anticipated or actual start date

29 August 2020

Anticipated completion date

01 November 2020

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Grant number(s)

State the funder, grant or award number and the date of award

81871962

Conflicts of interest

Language

English

Country

China

Stage of review

Review Ongoing

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

MeSH headings have not been applied to this record

Date of registration in PROSPERO

29 September 2020

Date of first submission

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Stage of review at time of this submission

The review has not started

Stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

29 September 2020

PROSPERO

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