LAPAROSCOPIC VERSUS OPEN LOOP ILEOSTOMY REVERSAL: A SYSTEMATIC REVIEW AND META-ANALYSIS

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INTRODUCTION

Standard operative approach for LI reversal has been through an open technique. Recently, Laparoscopic LI reversal has been recently been studied and employed. This approach has been advocated for as surgeon experience and comfort with laparoscopic surgery has increased and patients have become increasingly obese.

OBJECTIVES

This systematic review and meta-analysis sought to compare laparoscopic versus open LI reversal.

METHODS

Outcomes

- Primary outcome: length of hospital stay (LOS; days)
- Secondary outcomes: (1) 30-day postoperative morbidity; (2) Return of bowel function; (3) Intraoperative outcomes (operative time and estimated blood loss); (4) Total inpatient healthcare cost

Statistical analysis

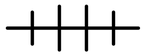
- Rated the certainty of evidence for each estimate using the GRADE framework
- Used DerSimonian and Laird inverse variance random-effects meta-analysis
- Assessment of heterogeneity with the inconsistency (I2) statistic

RESULTS

4 studies with 213 patients undergoing laparoscopic LI reversal and 176 patients undergoing open LI reversal met the inclusion criteria.
Index procedures were most commonly performed for **colorectal malignancy** (56.4%), **inflammatory bowel disease (**34.6%), and **diverticular disease** (1.9%)



LOS was significantly shorter in the laparoscopic group compared to the open group (MD -0.39, 95%CI -0.73 to -0.04, p=0.03, $I^2$0%)

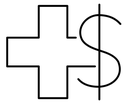


No significant difference in postoperative morbidity (OR 0.62, 95%CI 0.32 to 1.22, p=0.17, I^2=18%)

The laparoscopic LI group had reduced sSSI compared to the open LI group (OR 0.22, 95%CI 0.07 to 0.71, p=0.01, I^2=0%)



No difference in **operative time** (MD 11.91, 95%CI -1.87 to 25.70, p=0.09) or **estimated blood loss** (MD 2.09, 95%CI -15.51 to 19.70, p=0.82)



No difference in **healthcare costs** in the two studies that reported healthcare expenditure



No difference in post-operative ileus (RR 1.74, 95% CI 0.28 to 10.91, p=0.55, I2=0%)

CONCLUSIONS

Laparoscopic LI reversal is a feasible approach that **may reduce postoperative LOS and superficial SSI** compared to open LI reversal **without increasing operative time.**

NEXT STEPS

With the small number of included studies presenting only observational data, low certainty of evidence, and clinical heterogeneity in included studies, **future high-quality comparative studies are warranted.**