

Patients undergoing laparoscopic colorectal resection have a lower risk of post-operative paralytic ileus than patients undergoing conventional colorectal resection.

Leo Ziegel & Oscar Kjellberg

Karolinska University Hospital Solna

Petri Rantanen



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Conclusion

Laparoscopic colorectal resection is a desired treatment procedure compared to open conventional colorectal resection, in terms of lower risk for post-operative paralytic ileus. This conclusion is based on a systematic review by Schwenk *et al.* (2008), grade of evidence: A.

Clinical application

If you as a colorectal surgeon, or other treatment giver, are considering laparoscopic or open conventional colorectal resection and are concerned about post-operative paralytic ileus, there is enough evidence that you should choose a laparoscopic procedure.

Introduction

Colorectal resection is a surgical operation performed as a part of the treatment for colorectal cancer, but also for more benign diseases like ulcerative colitis, Crohn's disease and diverticulitis. Open abdominal surgery has long been the gold standard method, but in the 1990s laparoscopic methods were developed. Their short-term outcomes, like post-operative paralytic ileus, have been proposed to be better than open surgery, with some research data supporting this.

Scientific question

Do patients undergoing laparoscopic (I) colorectal resection (P) have a lower risk of post-operative paralytic ileus (O) than patients undergoing conventional colorectal resection (C)?

Search strategy

TRIP: hemicolectomy, laparoscopic, open+abdominal+surgery, post+operative+ileus

PubMed: hemicolectomy+laparoscopic+open+post+operative+ileus

Google Scholar: hemicolectomy+laparoscopic+open+postoperative+ileus

Name (year)	Design	Patients	Outcome	Results	Weaknesses
Schwenk W, Haase O, Neudecker JJ, Müller JM (2008)	Intervention review	Colorectal resections, 8 RCT, 895 patients	7 out of 8 RCT favored laparoscopic procedure	OR 0.42 [0.24, 0.75]	Only short-term perspective (<3 months)
Grailey K, Markar S, Karthikesalingam A, Aboud R, Ziprin P, Faiz O (2013)	Systematic review	Colorectal resections, 558 patients, age >70.	No significance in elderly population.	OR 0.65 [0.37, 1.12]	Elderly population (>70yoa). Post-operative ileus as a secondary outcome. p>0.05.
Li Y, Wang S, Gao S, Yang C, Yang W, Guo S (2016)	Meta-analysis	Colorectal resections, 10 studies, 1018 patients	Significance to choose laparoscopic procedure in patients 80 yo or older.	OR 0.58 [0.42, 0.81]	Only patients age 80+.

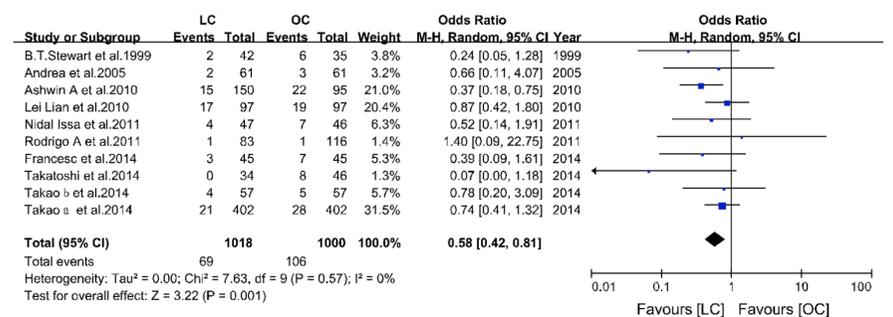


Fig. 10 Forest plot showing the incidence of postoperative ileus after laparoscopic colorectal resection (LC) versus open colorectal resection (OC)

Chart from Li *et al.*, Techniques in Coloproctology (2016)

Discussion

The Cochrane review by Schwenk *et al.* (2008) compares complication risks from conventional open and laparoscopic procedures when doing a colorectal resection. Only the first three months from the date of surgery are taken into account by the review, and no long-term data comparing complication risks are presented. Hence, our definition of post-operative paralytic ileus is based upon this time frame (three months after surgery). Since it is well known that all abdominal surgery, regardless of technique, increase the risk for both mechanic and paralytic post-operative ileus, it is encouraged to do more comparative analyses with focus on the long-term complications.

Both studies from Grailey *et al.* (2013) and Li *et al.* (2016) have gone through data on the elderly population. Interestingly, Grailey *et al.* found no significance when considering the two procedures in terms of post-operative ileus while Li *et al.* did. Li *et al.*'s analyses focused on octogenarians which could be an explanation, but the reasons why are still unknown. Please see forest plot above.

Post-operative paralytic ileus is a feared complication of abdominal surgery. This poster suggests that laparoscopic procedures are desirable, if possible, over open surgery in terms of lowering the risk for post-operative paralytic ileus.

Referenser:

- Schwenk W, Haase O, Neudecker JJ, Müller JM. *Short term benefits for laparoscopic colorectal resection.* Cochrane Library, 2008
- Grailey K, Markar S, Karthikesalingam A, Aboud R, Ziprin P, Faiz O. *Laparoscopic versus open colorectal resection in the elderly population.* Surgical Endoscopy, 2013
- Li Y, Wang S, Gao S, Yang C, Yang W, Guo S. *Laparoscopic colorectal resection versus open colorectal resection in octogenarians: a systematic review and meta-analysis of safety and efficacy.* Techniques in Coloproctology, 2016



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