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Letter to the Editor

Minimally Invasive Surgery for Inflammatory Bowel Disease: A Systematic Review and Meta-Analysis of Robotic Versus Laparoscopic Surgical Techniques

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Dear Editors,

We read with great interest the article 'Minimally invasive surgery for inflammatory bowel disease: a systematic review and meta-analysis of robotic versus laparoscopic surgical techniques', recently published in the *Journal of Crohn's and Colitis*.[1] Zaman and colleagues performed the first comprehensive systematic review and meta-analysis to examine the outcomes of robotic versus conventional laparoscopic colorectal resections in patients with inflammatory bowel disease [IBD], focusing on the comparative effectiveness, safety profiles, and surgical performance metrics of these two minimally invasive approaches.

In the absence of randomized controlled trials and direct comparative studies, all studies included in the analysis were non-randomized. This meta-analysis, therefore, provides a valuable level of synthesis and evaluation that individual studies alone could not offer. The primary outcome demonstrates that robotic surgery for IBD has a significantly lower overall post-operative complication rate compared to laparoscopic surgery, although robotic surgery tends to have longer operative times. Also, there was no significant difference between robotic and laparoscopic surgery in terms of conversion rates, anastomotic leaks, abscess formation, ileus occurrence, surgical site infection, re-operation, re-admission rate, and 30-day mortality.

We wish to contextualize the main finding of this study with the consideration of confounders such as the surgical setting, prior steroid treatment, and patients' nutritional status. There is indeed a substantial body of evidence suggesting that these can significantly influence the overall post-operative complication rate.

IBD surgery, when possible, is ideally performed electively to minimize complications.[2,3] However, urgent surgeries, such as small bowel resections due to perforation or emergent colectomies for acute severe ulcerative colitis, may not always allow for this preference. Robotic surgery, as a newer discipline, is predominantly conducted in an elective setting. Indeed, performing emergency procedures with robotic technology has traditionally been discouraged.[4] As such, urgent surgeries might more frequently employ laparoscopic techniques. Such differences in the surgical setting could significantly influence the overall rate of post-operative complications. In considering the nuanced context of surgical interventions for IBD, one can also consider the preparatory conditions of surgery, as the optimization of immunosuppression and nutritional status are paramount. The impact of preoperative corticosteroid use on surgical outcomes, and the associations between malnutrition, increased risks of surgical site infections, delayed wound healing, and prolonged hospital stays are well documented.[2,5]

While the meta-analysis provides valuable insights into the comparative outcomes of robotic versus laparoscopic surgical approaches in IBD management, it is noteworthy that considerations such as the elective versus emergent nature of the surgical procedures, prior steroid treatment, and patients' nutritional status were not explicitly addressed. Recognizing the inherent challenges in collating and analyzing data across diverse settings, the consideration of these confounding factors in future analyses would enrich the discourse on surgical management strategies in IBD.

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Conflicts of Interest

The authors have no conflicting interests to disclose.

Author Contributions

The authors were equally involved in the draft and revision of this Letter to the Editor.

Data Availability

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