

Peer Review File

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Reviewer A

The manuscript titled "Gut microbiota modulation: the key to improving outcomes after colorectal cancer surgery?" explores the potential role of gut microbiota in preventing anastomotic leaks and improving oncological outcomes following colorectal cancer surgery. The study by Hajjar et al. uses a combination of retrospective case reviews, murine models, and dietary interventions to investigate this relationship.

To improve the commentary, it would be great to include comments on conducting clinical trials to validate the findings and assess the safety and efficacy of microbiome modulation in preventing anastomotic leaks post-surgery. Also, comments on exploring a broader range of microbiome-modulating interventions, including probiotics, prebiotics, and other dietary supplements, could provide a more comprehensive understanding of potential therapeutic strategies.

Response to Reviewer A:

Thank you for this suggestion. A list of other interventions which modulate the microbiome and have shown promising results in pre-clinical studies has been included. We have also noted the need for rigorous clinical trials to assess these interventions.

- Paragraph 6. Various other perioperative interventions, such as low-fat/high-fibre dietary prehabilitation, pre- and pro-biotic supplementation, and phosphate supplementation, have demonstrated promising effects on the microbiome and anastomotic healing in experimental animal studies. However, the safety and efficacy of these interventions in reducing anastomotic leak remains to be established through rigorous evaluation in clinical trials.

Reviewer B

The authors provide an excellent editorial review of an original article identifying the role of microbiome in anastomotic leak. Limitations are well discussed. One minor suggestion is to tone down the last paragraph sentence that describes the findings as "remarkable" in context of the prior paragraph describing some important limitations.

Response to Reviewer B:

Thank you for your suggestion. We have revised the sentence following the paragraph on the research limitations to tone down the language.

- Paragraph 6. Despite this, these remarkable findings add to a growing body of evidence indicating that the microbiome holds considerable promise in preventing anastomotic leakage and, in turn, lowering the likelihood of disease recurrence.