Reviewer’s report

**Title:** MORBIDITY AND MORTALITY OF SERIOUS GASTROINTESTINAL COMPLICATIONS AFTER LUNG TRANSPLANTATION

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**Reviewer:** Anders Bugge

**Reviewer's report:**

Review of manuscript

MORBIDITY AND MORTALITY OF SERIOUS GASTROINTESTINAL COMPLICATIONS AFTER LUNG TRANSPLANTATION

The study is designed to:
Describe the frequency of severe gastrointestinal complications after lung transplantation, their impact on survival, as well as possible risk factors involved.

The description of the methods used are adequate and in my opinion feasible. The ethical aspect is enclosed and discussed; all patients have signed an informed consent form. The statistical methods are thorough described, and the data collection of the study is prospective with a retrospective design of the analysis of the data. The results are presented in four adequate tables and a figure illustrating the overall survival of patients with and without severe gastrointestinal (GI) complications after lung transplantation.

I have some comments and questions I would like to be answered by the authors.

1. In the methods part I miss a description and definition of all risk factors in table 4. Please define and explain why one has to consider the different factors to constitute a risk for GI complications.

2. I am not sure I understand what you mean by "kept alternative drugs", page 3, lines 18-19 in the methods. "In case of changes in immunosuppressant regimens, we kept alternative drugs: everolimus, cyclosporine and azathiopine." Please explain.

3. Further, not knowing the regular preoperative evaluation and postoperative follow-up of patients undergoing lung-tx in your center, I do not follow your need of using ECMO and extracorporeal circulation.

   a. Was this treatment necessary pre- or post-tx? Please explain and enlighten me.
b. Additionally, the ECC and ECMO is mentioned first in the results of the manuscript (MS), not in the methods, which I would find more reasonable.

4. Please explain how you define "the existence of rhythm disorders" more thoroughly. Did you include all patients with some simple ventricular extrasystoles or did they have sustained atrial fibrillation or ventricular arrhythmias?

5. The statistical methods used are in my opinion satisfactory and described in the MS. However; I believe you mean log-rank TEST, and not log-rank CONTRAST? (page 4, line 9.)

6. The results contains unnecessary miscalculations. 87 of 136 equals 63.97%, and not 64.97% (p. 4, line 13). Please make recalculations to avoid other similar errors. Further, in my opinion the display of decimal numbers are in this context inappropriate. Please conform to the journals guidelines, or try the web page: https://www.amamanualofstyle.com/view/10.1093/jama/9780195176339.001.0001/med-9780195176339-div2-529.

7. On p. 7, l. 27 you use the abbreviation GI? It is not explained and in all other sentences, the phrase "gastrointestinal" is written.

8. In the discussion part, please communicate and "sell" your main results. Your findings are in line with earlier performed studies, but with lower incidence in your population. Why? Please discuss! Your mortality rate in patients with severe GI complications is higher compared to the study you mention [Ref. 10], why?

9. Please also discuss what you may do to prevent GI complications? Considering your own findings.

10. By the way - Do you preoperatively examine all patients with upper or lower endoscopy? Would this affect your results? In our institution, all patients are examined with upper endoscopy pre-tx.

11. What do you mean by "type of bilateral transplantation" (p. 6, l. 11)? Sternotomy vs. thoracotomy?
12. In my opinion, and according to your definition on p. 4, l. 1, a p-value < 0.05 is considered statistical significant. However, you highlights the possible clinical usefulness of p-value 0.06. Does this make sense considering your previous definition?

13. The solution of the problem of GI complications you announce in the conclusion at the very end of your MS: "Exhaustively addressing gastrointestinal complaints in the transplanted population." Did you record symptoms from the GI tract in your database? In my opinion, the suggested solution to early detection of GI complications must be supported by your results and analysis. Otherwise, it cannot be stated as a solution to the problem.

14. Please check the spellings in the references. In ref. 8 you type "interventions following kung transplantation". "Kung" is the Swedish word for king, but I believe you here mean "following lung" and not "following the king"?

After a thorough examination of the MS, I only recommend it for publication after a major revision and restructuring of the MS. Especially, the interaction between the results and the discussion must be payed careful attention.

**Level of interest**

Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

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Please indicate the quality of language in the manuscript:

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