Reviewer's report

Title: Necessity of prophylactic splenic hilum lymph node clearance for middle and upper third gastric cancer: a network meta-analysis

Version: 0 Date: 05 Nov 2019

Reviewer: Malcolm Squires

Reviewer's report:

The authors present a meta-analysis to examine the association of prophylactic station #10 lymph node clearance at the time of gastrectomy for patients with upper and middle third gastric adenocarcinoma with the primary endpoints of perioperative complications and overall survival. This question and this analysis are relevant and of interest to the readership. The methods of this network meta-analysis are well-described and appropriate for extracting the data necessary to attempt to answer the primary aims.

Ten studies encompassing over 2500 patients were included in the meta-analysis. Gastrectomy alone (G-A) was associated with a significantly lower rate of perioperative complications and comparable 5-year OS versus gastrectomy plus splenectomy (G+S). Spleen-preserving splenic hilar lymph node dissection (G+SPSHD) at the time of gastrectomy was similarly associated with significantly perioperative complications and comparable 5-year OS versus gastrectomy plus splenectomy (G+S). On indirect comparison analyses, no significant difference in perioperative complications or 5-year OS was demonstrated between gastrectomy-alone (G-A) compared to prophylactic SPSHD.

One significant limitation that the authors need to acknowledge and explain is the failure to account for potential differences in adverse clinicopathologic features among the 3 cohorts within this study (G-A, G+S, G+SPSHD) that certainly could confound the survival analysis and limit the conclusions that can be drawn from such a meta-analysis. The authors themselves note in the Discussion section on page 14 that splenic hilar lymph node involvement is correlated with larger tumor size, T stage, number of positive LNs, poor differentiation, and tumor localization. The overall conclusions of the manuscript need to appropriately parsed.

Routine splenectomy at the time of gastrectomy has previously been shown to be associated with increased morbidity without any significant improvement in recurrence rates or OS or DSS in a randomized, controlled fashion. Based on the results of the current meta-analysis, routine prophylactic SPSHD is not associated with any noted improvement in OS compared to gastrectomy alone.

Another limitation is that all of the studies included in the meta-analysis are from Asian populations (including 1 study from Turkey); given the inherent differences in disease biology between gastric cancer patients in the West vs East, particularly with regard to the utility of extended lymphadenectomies, whether these results are generalizable to Western populations of gastric cancer remains to be seen.
The language of the manuscript needs to be cleaned up for ease of reading.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal