Reviewer’s report

Title: Clinical characteristics of distal gastric cancer in young adults from Northeastern Brazil

Version: 0 Date: 27 Apr 2017

Reviewer: Meira Eppelein

Reviewer's report:

This is an interesting study that seeks to examine differences in gastric cancer presentation and survival by age at diagnosis. However, as noted, the numbers are limited, but moreover the methods are not described in enough detail to determine the value of this study to the field.

Major Comments:

1. A better understanding of the study population is needed. What was the larger N - that is, how many patients were approached to get to the number of 207 participants in this study? How were the non-participants different from the participants, in terms of age, severity of disease, etc.? What were the exclusion and inclusion criteria? What was the definition of a case? At what time point were patients enrolled, compared to diagnosis date and treatment date?

2. What percentage of the patients in each age group had cardia versus non-cardia gastric cancer?

3. Why was 45 used as the cut-off age, when other studies use both 40 and 50, and obviously the number of young patients is small in this study, and could benefit by having more numbers if the cut-off was moved to 50, for example?

4. The results of symptoms experienced by patients need to be shown in a table (with Ns, etc.).

5. Numerous times in the manuscript it is stated that "no patients were diagnosed at an early stage of GC" but Table 1 shows individuals diagnosed at stages I and II among both the younger and older patient groups.

6. Because the survival analyses are performed on only a subset (less than half!) of the participant population, a new table 1 needs to be shown for these 82 individuals. Moreover, were these individuals different from the patients not lost to follow-up? And how many of the 82 actually died, within each age group (25 and 57), so to determine power for such an analysis?

7. What variables are included in the multivariable-adjusted hazard ratios (Table 2)?
Minor Comments:

1. The prevalence numbers stated in the Background section are hard to understand. The last sentence of the first paragraph states that gastric cancer prevalence in patients under 50 years "ranges from 2% to 19.5%." What is the denominator - of all cancer patients under 50 years of age, so to argue that gastric cancer is one of the most common cancers among individuals less than 50? And in what population(s)?

2. In the penultimate paragraph of the Background section, it is stated that "The prevalence of gastric cancer in young individuals, defined as 45 years old or less, is approximately 10%" in Northeastern Brazil. Are you stating that 1 in 10 young people there currently has gastric cancer?

3. In the discussion section, it is noted that virulent H. pylori strains could play a role in why younger patients present at a more advanced stage. This needs to be explained. Are younger people in Brazil more likely to be colonized by more virulent strains? Or are you suggesting that more virulent strains would cause gastric cancer at younger ages?

4. In the discussion section it is mentioned that young GC patients who undergo curative resection do not have a worse prognosis than older patients - do you see this is the data?

5. Why is it suggested in the concluding paragraph that endoscopic surveillance of patients with a positive family history may detect early-stage gastric cancer - does this data suggest that? If so, please show!

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

No

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

Unable to assess

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/](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