Reviewer’s report

Title: Malignant pleural mesothelioma: diagnostic value of medical thoracoscopy and long-term prognostic analysis

Version: 0 Date: 27 Feb 2018

Reviewer: Christopher Mallow

Reviewer’s report:

This is a manuscript about the efficacy of thoracoscopy to diagnose malignant pleural mesothelioma and prognostic factors.

Intro

- Page 4- you should state the accuracy of cytology and cite it (line 28).

- Page 4- In line 39 you state that MT is highly sensitive and safe, you should also provide the data to go along with this.

Methods

- You need to state that this was a retrospective study. This is not stated until the limitations section of the discussion.

- Page 5 your misspelled pleural effusion as "plural"

- You state that MT diagnosed 35 and the other 5 were diagnosed 8 months later, but you never state how they were diagnosed.

- Table 1 should be in the results only, not the methods

- On page 7 you write "various factors," when you should list out the variables.

- You also performed cox regression and never mention whether they meet proportional hazards assumption. If you are conducting survival analysis, this is crucial especially given the small n.

Results

- You cite your previous papers during this, and your results should be about the results to this study only. Especially since one paper cites the original 35 and another paper cites the other 5? Its confusing.
- 33/40 had complete data, what happened to the other 7?

- You use p-values rather than 95% CI in multiple areas, and 95% CI when you should use range. In general, for regression analysis I would favor using 95% CI. A small p-value is of little use when the confidence intervals are extremely wide. Likewise, when you use medians, you should state the range.

- You conducted univariate analysis, but never mention if you looked for co-linearity, effect modification, etc. You need to conduct multivariable analysis to assess whether any of these variables are controlled for one another.

- You need to mention whether the proportional hazards assumption was met prior to showing cox regression statistics.

Discussion

- p. 11 "Status of the lymph node" is odd wording

- p.12 and 13 have numerous grammatical errors

- p.12 states MT as an imaging technique, which is incorrect- it is an invasive procedure.

- p.13 "Our data revealed longer survival for MPM patients with the epithelioid type and this result is in line with many previous studies"- you need citations of the studies you are referring to.

- You need to elaborate on why having such a small n is a limitation. You call it a limitation and do not mention why.

- This is a retrospective study- that is a huge limitation which you do not mention.

Conclusions

- These need to be drastically toned down. You identified some variables that are associated by univariate analysis, but you stopped there. I think you need more statistical analysis before you can deem any of these "predictors" and even after that, with such a small n and the fact that this is retrospective you can not draw any major conclusions. These may be prognostic factors, but we dont know. I would address what you think can be done to further explore this?

Tables

Table 1. looks good, maybe change means and sd's to medians and ranges
Table 2. Add a column of multivariable analysis— with such a small n you can only control for a couple things, but your results could significantly change.

Table 3. see table 2

Figures

- I'm not clear as to how helpful a lot of these graphs are. You showed the cox regression data on a lot of this already. Especially since each group is maybe 15/15, there isn't a lot to gain from these graphs (in my opinion).

**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.

No

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

No

**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

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