Reviewer’s report

Title: An improved method of delivering a sclerosing agent for the treatment of malignant pleural effusion

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Reviewer: Jason Chia-Hsun Hsieh

Reviewer’s report:

The authors attempted to propose an improved method of delivering a sclerosing agent for the treatment of malignant pleural effusion in animal malignant pleural effusion models. They found the survival of mice in novel thermosensitive hydrogel talc foam (TF) group was better than that in the talc slurry (TS) group. Effusion volume was less in the TF group, and pulmonary fibrosis was similar between the two groups.

1. How to measure the total effusion volume without loss in mice? In human studies, it is quite a difficulty to collect all the pleural effusion without a precise collection method especially when multiple separated pleural effusions appear after talc pleurodesis (I guess there are possible loculated effusions in TS group in figure 3B).

2. The factors of Equation 1 in the submitted manuscript were missing.

3. The survival of mice in the TS group is similar to the control group. That might imply that the conventional TS pleurodesis is not superior to controls. Please have some discussion about why TF can prolong survival but TS cannot.

4. Page 7, line 29-30. The abbreviation, "GLMs" and "FDR78", have not been clearly defined in the manuscript.

5. TF significantly (p < 0.05) reduced loss of right lung volume (by 30-40%) compared to the control group, which was not significantly different from TS (p > 0.05). That might be a confounding measurement to the amount of pleural effusion.

6. Foam gel form talc (TF), as described in the manuscript, means that talc was mixed in an air-liquid form. Please explain whether this is feasible/safe in cancer patients with MPE? The novelty and future application of this study will be in outpatient MPE management, in my opinion. How will the authors prevent or monitor further pneumothorax or empyema without a catheter in patients received TF pleurodesis?

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:

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