Reviewer’s report

Title: The value of 3D visualization operative planning system in ultrasound-guided percutaneous microwave ablation for large hepatic hemangiomas: a clinical comparative study

Version: 0 Date: 15 Jan 2019

Reviewer: Man Chen

Reviewer's report:

This study aimed to evaluate the value of a 3D visualization operative planning system in ultrasound-guided percutaneous microwave ablation for large hepatic hemangiomas. 58 patients with LHHs were divided into two groups to assess therapeutic efficacy, the researchers concluded that 3D visualization operative planning system has a relatively high clinical application value in providing scientific, reasonable, quantifiable, and individualized therapy for LHHs by US-PMWA.

This research investigated a new way of operation planning seem to be a novel standpoint. But some flaws in the methodology design made the results less convincing.

1. The study population is relatively small, and some of the p value are very close to 0.05, this might make the results less convincing.
2. Did the operator of MWA blinded to research design? It looks like the operators control the time cost and energy level of MWA in the theatre. If they were not blinded to grouping information, how do you avoid bias?
   And the definition of complete ablation and the measurement method of tumor volume rate should be written in the manuscript.
3. Page 25 Table 3, the p value of "Case of hemoglobinuria" is 0.047, it is the p value of a left-sided Fisher's exact test, not the result of paired chi-square test you mentioned in Materials and methods. Please check the statistical methods.
4. The operative planning system is 3D, but the ablation was guided by conventional US or CEUS, they are all 2D technology, please clarify the aligning process.

Specific comments:

1. As for the first inclusion criteria for US-PMWA, the author should reference for the sentence "definite diagnosis of LHH ≥5 cm Based on the typical enhancement pattern on contrast-enhanced computed tomography (CT), magnetic resonance imaging (MRI), or contrast-enhanced ultrasound (CEUS)".
2. Page 5 line 8 "heat sink" should be "heat-sink".
3. Table 2 only lists the liver and renal function indexes before and after ablation, and this does not contribute to the conclusion. It is suggested to compare the changes of liver and renal function indexes before and after ablation between 3D and 2D groups.
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.

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 recommend additional statistical review

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

Acceptable

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