Reviewer's report

Title: Comparison of Contrast in Brightness Mode and Strain Ultrasonography of Glial Brain Tumours

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Reviewer: Jingfeng Jiang

Reviewer's report:

The paper by Dr. Sekbekk et al. describes a clinical study where ultrasound brightness differences are compared to strain ratio differences in normal brain tissues and glial tumors. This work might be interesting to the clinical community regarding the use of elastography in brain surgery. For the most part, this manuscript is well written and easy to follow. Overall, it is interesting work and could be published after amendments.

Major Compulsory Revisions:
1. It is well understood in the ultrasound physics literature that ultrasound brightness is not correlated to the tissue elasticity. A good example that should be appropriate for the clinical community is a phantom work by Timothy Hall et al. (IEEE UFFC, 1997). Adding this reference would make it clear that the comparison between the brightness and strain ratio is only for diagnostic performance.

2. It was not clear by the authors that how many measurements were performed for a given tumor. Related to that, if only a few points were selected, how may the selection bias affect your results? It would significantly enhance the paper if inter- and intra-observer variability of this technique is presented.

3. The ultrasound brightness may change significantly by the system setting. Please clarify the procedures to avoid this shortfall.

Minor essential Revisions:
1. Method Section: First line says only 15 patients have RF data. There are 45 patients. If this is not a typo, please explain how the measurements were performed in the rest of patients.

2. Fig.1: The strain image is too noisy to see anything. That enhanced the reviewers' suspicion on selection bias. Please also indicate the location of brain tumor in the B-mode for the sake of readership.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests’ below