Author’s response to reviews

Title: Adding Trans-abdominal Elastography to the Diagnostic Tool for An Ileal Gastrointestinal Stromal Tumor: A Case Report

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Response to the reviewers:

Lorenzo Mannelli (Reviewer 1): nice case report with use of elastography.
1. consider softening the conclusions.
2. consider discussing cross sectional elastography for GIST detection.
Answers: Thank you for your kindly comments. We had revised the text.

Yann Jamin (Reviewer 2): This case study highlights the potential of transabdominal strain elastography for the differential diagnosis of small bowel GI stromal tumor. This study demonstrates further application of elastography for the differential diagnosis of tumors and how it can complement established methods. This case study will be of great interest for oncologist, surgeon and for the growing field of elastography.

I do have major comments:
1- Throughout the manuscript there is a lot of inaccuracies in the definition of elastography, e.g.:

P3 line 62: "Elastography" is "not an emerging sonographic technique". It is a whole field of imaging research. This needs to be address throughout the paper. The introduction will benefit from a brief description of the principle of elastography, including more precisely how strain elastography work.

P7 line 129: Again this statement is incorrect "Elastography does not depicts the relative stiffness of the tissues". Strain elastography does.

Answer: Thank you for your kindly suggestions. We had revised it in the text.

2- There seems to be a lot of heterogeneity in the tumor elastogram. The paper concentrates on the stiff lobe but there is no mention of the softer one. It would be good to discuss this. How does it fit with the gross pathology presented, the histological assessment (was it done in the stiffer lobe), the appearance
on the CT scan images? This may help the authors to further demonstrate the potential used of this technique for differential diagnostics. Please includes the CT images in the paper.

Answer: Thank you for your kindly suggestions. In strain elastography, we chose the main part of the tumor as the region of interest. The softer part was the necrotic part that an arrow indicates (Fig 2). It was fit with the gross pathology (hemorrhagic necrosis). In addition, CT image was included in the Fig 1.

3- I am not sure it is very clear throughout the paper that the potential application of the strain elastography in this setting is based on the fact that gastric GIST have been reported to be stiffer than other SMT (as stated on page 4). This should be reiterated in the discussion. Are these tumor rich in extra-cellular matrix and collagen fibers or is the cellular density driving the stiffness. Please discuss.

Answer: Thank you for your comments. We had added your suggestions in the “Case presentation” and “Discussion”.

4- Presentation of the figures and legend is poor. The legend should be self-explanatory out of the context of the main paper. For the broader audience (including myself) of BMC Medical Imaging I would suggest to describe what the different panel represent ( elastogram and …). I believe that these images are taken from the scanners which is fine. However there is a lot of information on them and if you are not familiar with them it is overwhelming. The most important information: the scale (soft-hard) is hard to read and I think it is especially important again for the wider BMC MI community, for whom this colour scale may be counter intuitive. Please replace. Please also point/label at the reference ROI…etc.

Answer: Thank you for your suggestions. We had revised our figures and legends.

Other comments:
Discussion.
4- Briefly discuss the advantage of strain elastography compared to shear wave elatography (quantitative) if any (or if it was not available for the experiment then discuss its potential use).
Answer: Thank you for your comments.

5- P8 Lines 150-155 more concise please.
Answer: We had revised it.

6- P8 line 156 replace "application" by "use":
Answer: We had revised it.