Author’s response to reviews

Title: Liver stiffness measurement predicts the difficulty of Kasai procedure in Biliary Atresia: a single center retrospective analysis of 199 patients

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Version: 1 Date: 09 Nov 2019

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Yusuf Hakan Çavuşoğlu, MD, BcBA (Reviewer 1):

Q1: Abstract- Methods: no thing was described about the two groups.
A: I have added a further explanation regarding the two groups in my method:
Group A comprised of patients with porta hepatis retraction (the angle between the plane of the fibrous porta plate and the plane of the medial liver closest to the plate was equal to or smaller than 90°), group B comprised of patients without porta hepatis retraction (the angle between the plane of the fibrous porta plate and the plane of the medial liver closest to the plate was greater than 90°).

Q2: Abstract- Results- 2nd sentence: "P=0.000<0.01" is inaccurate.
A: "P=0.000<0.01" has been changed to "P=0.000".

Q3: Methods- Patients: It belongs to results section. There is no explanation why 30 patients exclude from the study.
A: I have made the relevant changes and have added an explanation about why the 30 patients were excluded from the study: 30 patients did not have pre-surgical LSM and were excluded from this study.

Q4: Methods-Grouping Methods: From which source the findings 'Porta hepatis retraction' and 'vascular proliferation around the fibrous portal palate' obtained in a four years RETROSPECTIVE study without a clear description.
A: Porta hepatis retraction and vascular proliferation around the fibrous portal plate was obtained via observation during the surgery (we had recorded the surgical observations immediately after each
surgery). We had no means to measure vascular proliferation at the point of surgery, and this remains an ongoing challenge. In our experience, vascular proliferation is always present with porta hepatis retraction. However, since we are unable to clinically define vascular proliferation, I have removed it as a criterion for grouping. This does not interfere with my results, as patients with vascular proliferation were all only in group A (they all had porta hepatis retraction).

Q5: Is the assessment of liver stiffness a routine procedure for these four years period?
A: Yes, liver stiffness is a routine procedure at our hospital. It is our practice that all patients with biliary atresia are sent for liver stiffness assessment before and after surgery. Patients who come for follow up also undergo liver stiffness assessment.

Q6: To best of my understanding- the main idea of the manuscript is; in biliary atresia more liver cirrhosis causes more surgically difficult Kasai operation, the difficult operation can be defined by porta hepatis retraction' and 'vascular proliferation around the fibrous portal plate', LSM can noninvasively assess the degree of liver fibrosis and if LSM value is over a cut off value (23.75kPa), the patient should be transferred to a larger clinic.
A: Yes, that is my main conclusion, you have accurately summarized the article. As mentioned above in Q4, I have removed ‘vascular proliferation around the fibrous portal plate’ as a criterion.

Q7: There is no clear description of "porta hepatis retraction" and "vascular proliferation around the fibrous portal palate"
A: I have now added a clear description of porta hepatis retraction (as per Q1) and have also decided to remove the criterion regarding vascular proliferation around the fibrous portal plate (as per Q4).

Q8: How it is concluded that 'porta hepatis retraction' and 'vascular proliferation around the fibrous portal plate' negatively affected the prognosis? The only consequence may be only aching back of the surgeon.
A: This research does not conclude that 'porta hepatis retraction' and 'vascular proliferation around the fibrous portal plate' negatively affected the prognosis. Our conclusion is that 'porta hepatis retraction' and 'vascular proliferation around the fibrous portal plate' will lead to a more challenging surgery and demands a higher surgical skill level of the surgeon. However, if the surgeon is highly experienced and is familiar with the anatomy of the liver, especially the porta hepatis, then there will be no interference or change in the prognosis of the surgery.

Einar Ólafur Arnbjörnsson, MD, PhD, Professor (Reviewer 2):
This is an interesting study, well written and clearly describing the authors ideas. The paper has some novelty value. The problem studied is relevant for the pediatric surgical specialists. The ideas presented are of some value for the few pediatric surgeons performing the Kasai's operative intervention. The statistical evaluation is relevant and the list of references is adequate. The method used for the research is correct. The use of controls is not necessary. The conclusion is supported by the data presented in the manuscript.

Thank you for your recognition and approval.