
Format for ANSWERING REVIEWERS



July 27, 2017

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 35151-review.doc).

Title: Laparoscopic finding of a hepatic subcapsular spider-like telangiectasis sign in biliary atresia

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We would like to express our sincere thanks to the reviewers and editor for the suggestions and comments, which are beneficial for strengthening our manuscript. We have addressed the comments point by point, and the amendments are highlighted in yellow in the revised manuscript.

Replies to Reviewer #1

Very interesting findings. However, it would not affect the management. I tend to disagree that when the infant was put under GA and performing laparoscopy, if there is no HSST sign, cholangiogram will not be performed and confidently 'confirm' it is not BA. Performing lap cholangiogram is easy and don't need 5mm ports and instruments.

Response:

Thank you for your insightful comment. We agree with you that currently our findings do not affect the management of biliary atresia (BA), and it's also too early to assert that the HSST sign will replace the laparoscopic cholangiography based on the limited cases. However, as a scientific exploration, our conclusion comes from solid clinical evidence, and it has contributed to the accumulated diagnostic markers that predict BA. One purpose of our work is to attract the attention of more pediatric surgeons on this phenomenon and we wish that this discovery would be validated by more cases. If possible, the procedure for addressing BA may become a routine examination followed by laparoscopic exploration for a HSST sign and a laparotomy Kasai operation in the future, and the radioactive cholangiography will not be necessary.

As for laparoscopic cholangiography, we have introduced our experience on this procedure in detail in our previous article (Tang, S.T., et al., The evaluation of laparoscopy-assisted cholangiography in the diagnosis of prolonged jaundice in infants. *J Laparoendosc Adv Surg Tech A*, 2009. 19(6): p. 827-30) [1]. Fig1-3 have shown the main steps for laparoscopic cholangiography.

There are three techniques of laparoscopy-assisted cholangiography that have been reported [2-4]. The first method was to insert a catheter into the gallbladder directly under laparoscopy to perform cholangiography. The second was to insert a catheter into the gallbladder via a transhepatic route guided by laparoscopy. The third was to insert a catheter into the exteriorized gallbladder via an abdominal incision route guided by laparoscopy. However, based on our experience, it is usually very difficult to insert a catheter into a shrunken gallbladder, even in the case of a laparotomy for open intraoperative cholangiography. Most cases in our study appeared with a shrunken or atretic gallbladder under laparoscopic vision. Some gallbladders

had no lumen or only a latent lumen, while some others contained little white or yellow serous fluid. The percutaneous transhepatic cholangiography is easy for children with intra-hepatic bile duct dilation or enlarged gallbladder. However, for patients with BA, this approach appears to be very difficult due to the shriveled or atretic intra-hepatic bile duct or gallbladder, and it may increase the risk for bleeding. Also, laparoscopy-assisted percutaneous needle cholangiography is not technically feasible and is bound to be time-consuming.

We do not agree that performing lap cholangiogram is easy and don't need 5mm ports and instruments. For some patients, the gallbladder could be pulled out directly through the port of trocar for cholangiography. But for some of the BA cases with shriveled gallbladder, the gallbladder was dissected from the liver bed partially, and we retained the integrity of the vascular and gallbladder duct, so that it could be exteriorized from the right-upper quadrant incision, and a 5mm ports and instruments are indispensable.



Fig1



Fig2



Fig3

REFERENCE:

- 1 **Tang ST**, Li SW, Ying Y, Mao YZ, Yong W, Tong QS. The evaluation of laparoscopy-assisted cholangiography in the diagnosis of prolonged jaundice in infants. *J Laparoendosc Adv Surg Tech A* 2009; **6**: 827-830 [PMID: 19961368 DOI: 10.1089/lap.2008.0432].
- 2 **Shah AA**, Sitapara AM, Shah AV. Laparoscopy in diagnosis of prolonged

neonatal jaundice. *Indian Pediatr* 2002; **12**: 1138-1142 [PMID: 12522276].

3 **Senyuz OF**, Yesildag E, Emir H, Tekant G, Bozkurt P, Sarimurat N, Soylet Y. Diagnostic laparoscopy in prolonged jaundice. *J Pediatr Surg* 2001; **3**: 463-465 [PMID: 11226997 DOI: 10.1053/jpsu.2001.21621].

4 **Zhou XC**, Y G, Ge WP, X SJ, Lin YR, Jin L, Lao WH, Hong C, Shi H. Laparoscopic-assisted with methylene blue staining in biliary for the diagnosis of obstructive jaundice in infants. *Chin Pediatr Surg* 2000; **6**: 373-374.

Replies to Reviewer #2

To authors, I totally agree with your data about, the new operative finding, “subcapsular telangiectasia”, for diagnosis of biliary atresia. However, before making a final decision, several parts of manuscript should be revised.

1. I think that, on the page 8, the first sentence “The groups were age-and sex-matched” would be duplicated. If that was not duplicated, please express that with another more specific sentence to prevent confusion to the readers.

Response:

Thanks for your careful checks. The first sentence was indeed duplicated, and we have deleted the second sentence in the revised manuscript. (Page 10, Paragraph 4)

2. Figure 1 is very good collection of pictures by which we can see the characteristic hepatic surface of biliary atresia and the other infantile cholestasis.

Response:

Thanks for the positive comments.

3. The authors classified the HSST into a dispersed type and concentrated type in Figure. However, I could not recognize the difference between two types of HSST in Figure 3. What is the definition the dispersed type and concentrated type of HSST? Each definition should be more specific.

Response:

Thank you for your thoughtful comment. Based on the prospective and retrospective investigation, we classified the HSST sign into a dispersed and

concentrated type. The dispersed type is defined as: radiating branches originate from more than one central point, but close to each other to form a spider-like sign (Fig. 3A). And the concentrated type is defined as: radiating branches originate from one central point (Fig. 3B). The correction has been made in the revised manuscript and Figure 3. (Page 11, Paragraph 3 and Page 24)

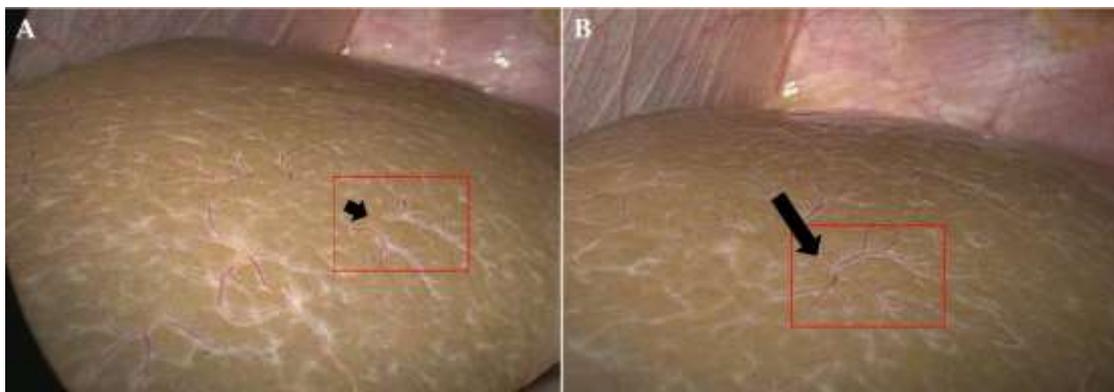


Figure 3 Different types of HSST signs.

4. In legend of the figure 3, the authors wrote that the dispersed type was marked with arrowheads and the concentrated type with long arrow. However, in the picture of figures 3, the dispersed type was marked with short arrows (not arrowheads). Please correct that mistake.

Response:

Many thanks for pointing out our mistake. We have replaced the “arrowheads” with “short arrow” in the revised legend. (Page 24)

5. Legend of Figure 6 in manuscript definitely has been written with mistakes. Picture A is not color Doppler US image; it is just the picture of

laparoscopic finding. Other mistakes also should be corrected including the arrowheads; I can find just thick and short arrows in the picture.

Response:

Again, we give thanks to the reviewer's careful checks. We have carefully checked this legend and corrected the mistakes. (Page 27)