

Dear Yuan Qi,

Thank you for your friendly letter and your interest in submitting a revised version of our manuscript (ESPS Manuscript NO: 33520). In the following, we have addressed each aspect of your letter and would like to comment on all reviewer concerns point-by-point. For convenience, the reviewers' concerns were repeated previously. Changes made in the manuscript are highlighted in red.

We are confident that we could address all issues to your satisfaction and want to thank the reviewers for their efforts to further improve our manuscript.

Please don't hesitate to contact us if further information is needed. We are looking forward to hearing from you.

Yours sincerely,

Iyad Kabar, MD

Comments of Reviewer 03646539:

1. Some limitations should be shown. Such as performed in potentially unnecessary cases or lengthened procedure time. Indication of ERCP should be shown not just biliary complications, and/or suspected biliary complications. Were cases of cholangitis included? Or were they included after resolution of cholangitis by biliary stents or naso-biliary drainage?

Reply: Cholangioscopy surely has led to a prolonged procedure time, thus also necessitating additional propofol dosage. Since our study was not designed as a feasibility study we unfortunately neither assessed additional procedure time nor additional propofol administration.

However, the diagnostic yield of cholangioscopy in our study outmatches potential risks by the lengthened procedure time as we only observed one adverse event (one post-procedural cholangitis).

Minor comments:

1. Abstract: For the "aim", to evaluate what of cholangioscopy should be described. "non-anastomotic strictures in seven (31.8%)" might be mistaken. 7/26 would be 26.9%. Same for the main text. "A benefit of cholangioscopy was seen in 12 (46%) patients." 46% should be changed to 46.2%. Same for the main text.

Reply: We thank the reviewer for this important remark and have corrected the numbers in the abstract as well in the main document.

2. Conclusion differs a little bit for abstract and main text. "Procedural success" is not described. Introduction section: "Therefore, this study aimed to..... We aimed to....." It would be better to put together the aims.

Reply: We agree with the reviewer and have adapted the conclusion section for the abstract and main text.

3. Material and methods section: How was (were) the expertise of the endoscopist(s).

Reply: The interventions were performed by two investigators rated as highly experienced with a case volume above 200 endoscopic biliary interventions / year. We have added this information in the Material and Methods section

4. "Visiglide" → "VisiGlide"

Reply: we have corrected the spelling

5. Was sphincterotomy performed only if necessary?

Reply: sphincterotomy was performed only if necessary. We have stated this in the manuscript.

6. "Strictures were defined as an abrupt narrowing of the bile duct with delayed outflow of contrast media through the stricture." The word to be defined should not be used in its definition.

Reply: We now have used "determined" instead of "defined"

7. Results section: The superiority of cholangioscopy on ERC in detecting CBD stones is well understood. How were the results of other imaging modalities such as MRCP and EUS, if performed.

Reply: MRCP or EUS were not regularly performed in all of our patients, thus comparison of the procedures with each other is not possible. As stated in the manuscript patients with LT and duct-to-duct biliary anastomosis who presented with clinical or biochemical signs of biliary complications, and/or suspected biliary complications based upon imaging and/or histology between April and December 2016 were consecutively included in the study. Initial imaging included transabdominal Ultrasound in all cases. In case of inconclusive findings on transabdominal ultrasound and absence of clinical evident cholangitis, endoscopic ultrasound was performed followed by ERCP in case of documented biliary tract alterations.

We have added this information in the Patients and Methods Section.

8. Complication rate being very low (1/26). How were complications evaluated? Like by accordance to ASGE guideline. "Findings of ERCP During ERCP, anastomotic strictures were observed in 14 patients, non-anastomotic in seven, and stones in three. One patient showed bile duct kinking. In seven patients, ERCP showed no pathological results. Findings of cholangioscopy

Cholangioscopy showed anastomotic strictures in 14 patients (Figure 1), non-anastomotic strictures in seven (Figure 2), biliary cast in three, and stones in six." Unnecessary repetitions of prior paragraph.

Reply: We thank the reviewer for this important remark. Complications were evaluated according to the ASGE guidelines. We have added this in the Patients and Methods section.

9. "Furthermore, cholangioscopy was superior to ERCP for detecting stones in three patients ($P < 0.008$) and cast in three patients ($P < 0.001$) that ERCP failed to detect in these patients." How were these P values determined? Was it Fisher's exact test? Like 3/26 vs 6/26 and 0/26 vs 3/26 or something?

Reply: As stated in the Patients and Methods section categorical variables were compared using Fisher's exact test. P values ≤ 0.05 were considered statistically significant.

10. Plasmacytes not plasmocytes.

Reply: We have corrected this spelling mistake in the manuscript.

11. Discussion section "SpyGlass DST" should be changed to "SpyGlass DSTM".

Reply: We have corrected the spelling mistake in the manuscript.

12. Bile culture and selection of antibiotics is very important. However, it has nothing to do with study aim and is not suitable to be stated as conclusion.

Reply: It is absolutely correct that bile culture and selection of antibiotics was not the study aim. However, the findings are very interesting and might have a significant clinical implication, thus we are of the opinion that these findings should be included in the conclusion section. If necessary we can of course just refer these findings in the discussion section.

Comments of Reviewer 00503243

1. In my opinion the manuscript is fine and well written. In addition the manuscript is useful for physician facing with post liver transplant complication clearly documenting the superiority of cholangioscopy with respect to ERCP. Interestingly the superiority is clearly documented biliary stones, casts and unusual, but diservere finding as micotic ulcer

Reply: We thank the reviewer for his evaluation and agree that the findings of our study are useful for physicians facing with post liver transplant complications.