Author's response to reviews

Title: Comparative evaluation of sump drainage by trocar puncture, percutaneous catheter drainage versus operative drainage in the treatment of intra-abdominal abscesses: a retrospective controlled study

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Version: 2
Date: 3 November 2014

Author's response to reviews:

Dear Editor,

This is a REVISED manuscript entitled “Comparative evaluation of sump drainage by trocar puncture, percutaneous catheter drainage versus operative drainage in the treatment of intra-abdominal abscesses: a retrospective controlled study” to be published in BMC Surgery.

All authors have made substantial contributions to this study, read and approved this final version of the manuscript. Due care has been taken to ensure the integrity of the work. I certify that this manuscript, or any part of it, has not been published and will not be submitted elsewhere for publication while being considered by BMC Surgery.

We are most grateful to the editors for providing us an opportunity of revision. We also appreciate the precious comments and suggestions from the reviewers. These advices are quite helpful for improving our manuscript.

We made a point-to-point response to all concerns that have been raised, and indicated changes that have been made and on what page the changes appear.

Thank you very much for your attention to our paper.

Sincerely yours,

Jianan Ren, MD, FACS
Title: Comparative evaluation of sump drainage by trocar puncture, percutaneous catheter drainage versus operative drainage in the treatment of intra-abdominal abscesses: a retrospective controlled study.

Version: 1 Date: 21 November 2013
Reviewer: Jason F Hall
Reviewer’s report:
Reasons
1. No primary outcome defined.
Answer: Thank you very much for your reminder. We have added the relative contents in the Methods (Page 6, Line 109). Our primary outcome was the rate of subsequent surgery and ultimate stoma creation. Secondary endpoints were postoperative complication, duration of hospitalization, recurrence of abscess, and survival condition.

2. Need Kaplan-Meier or time-to-event analysis for outcomes such as surgery or stoma formation
Answer: Many thanks for your constructive suggestion. Given the time-dependent property of the probabilities of subsequent surgery and ultimate stoma creation, calculation of the cumulative rate is definitely meaningful and necessary. We’ve had an expert who majors in medical statistics analyze our data and draw the Kaplan-Meier curve (Figure 1). The relevant contents have also been added in the manuscript (Page 2, Line 37; Page 8, Line 163; Page 11, Line 209).

3. Study is riddled with selection bias as there is not indication of how patients were chosen for each primary or secondary intervention
Answer: We are sincerely sorry for the limitations. Many confounding factors like selection bias are unavoidable in the present study and other retrospective studies1-5 for comparison of different drainage approaches of intra-abdominal abscesses. Even though prospectively conducted6, randomized trials to compare clinical outcomes between nonoperative interventional procedures and open surgical drainage are fairly difficult to organize and almost impossible. In our center, how patients were chosen for drainage methods were multifactorial. The basic principles have already been proposed in the manuscript (Page 4, Line 59; Page 12, Line 234). In clinical practice, patients were assigned into Trocar, PDC and SD groups after discussing with the surgeons on the risks and benefits of each treatment and signing consent forms. Therefore the bias of selecting specific patients to a certain strategy of drainage of abscesses was supposed to be mild to undermine the conclusion in the setting of treatment in our study. As we have explained in the discussion part, the demographic (such as age and gender distribution), clinical (such as APACHE II score and primary cause) and abscess-related parameters (such as abscess size, location and bacteria of purulence) at baseline were all similar, hence the statistical comparability among the groups ought to exist. Relevant statements have been revised (Page 6, Line...
We value highly the opinions of the respected reviewer and are considering conducting a prospective study to maximally reduce the confounding factors and explore more precisely the differences in clinical outcomes between non-surgical and surgical drainage of intra-abdominal infections. We sincerely hope that the results can be shared in the near future and be of value.

Reference

Version: 1 Date: 23 September 2014
Reviewer: cheng zhou
Reviewer's report:
Comment 1[Major Compulsory]: Methods of Abstract: Please list the important parameters which you would like to compare with
Comment 2[Major Compulsory]: Results of Abstract: The way how you group should be in method not here
Comment 3[Major Compulsory] Results of Abstract: In Results, the data should be specific; the value of each parameter, at least the significant ones should be list also with the P value. e.g. Postoperative hospitalization, the rate of complication
Comment 4[Minor Essential]: Method of Abstract: Please mention the statistical
method in the Method

Answer: Many thanks for your modification proposals. We have revised the Abstract as suggested (Page 2, Line 29).

Comment 5[Minor Essential]: Introduction: There is no review about the surgery drain in the introduction. Without such background and info, we are not able to clear the dismerit of SD which will dilute the contribution of your paper.

Answer: Thank you for your reminder. We have added an overview of the surgical drainage in the Introduction (Page 4, Line 66).

Comment 6[Major Compulsory]: Method: In last paragraph from method, please do not try to comment the technique just describe what you did.

Comment 7[Major Compulsory]: Method: Please be more specific in the PDC and SD technique

Answer: Thank you very much. We have modified the Methods part and given more details of the PDC and SD approaches as suggested (Page 7, Line 129,135).

Comment 8[Minor Essential]: Please name all these three groups in coincident
Comment 9[Minor Essential]: for the word "in accordance to" should be "in accordance with"
Comment 10[Minor Essential]: In results, please change the word "thirteen" into "13"
Comment 11[Minor Essential]: Please recheck the word "average length of follow-up period" should be something more academic
Comment 12[Minor Essential]: "declined than" that is not a good expression

Answer: We appreciate your time and detailed comments, and are sincerely sorry for the grammatical errors. We have made modifications according to your advices and had an expert who majors in English review our manuscript and made modifications. We hope this revised manuscript would not tarnish our findings again.

Comment 13[Minor Essential]: In discussion, when you say the technique is a promising method for the therapy of Crohn’s disease, but without the reference, please name it.

Answer: The sump drain with trocar puncture is an innovative strategy of drainage of intra-abdominal abscesses, which was established exclusively by our team. Hence so far few literatures concerning its applications have ever been published. We applied this device to a Crohn’s disease patient and achieved gratifying results (Liu S, Ren J, Gu G, Yuan Y, Han G, Wu Y, et al. Drainage of intra-abdominal abscesses with gastrointestinal fistula in Crohn’s disease using sump drain via trocar puncture: a modified strategy. Tech Coloproctology 2013;17(4):459-461.). Data from our ongoing large-scale studies show that it is a promising management option in Crohn’s disease patients with lower rate of postoperative complication, shorter duration of postoperative hospitalization and
lower rate of ultimate stoma creation. However, the data hasn’t been published. We have already made a brief annotation there (“our unpublished data”, Page 13, Line 251).

Comment 14[Minor Essential]: In discussion, i do believe the word “obligation of” should be obliterate.

Answer: Thank you very much. We have revised the expression in the Discussion (Page 13, Line 255).

Comment 15[Minor Essential]: Since the advantage of sump drain technique is the patency, why there is no comparison of blockage rate between the Trocar group and PCD group.

Answer: Conventional percutaneous catheter, which is prone to clogging because of the relatively small diameter, is much maligned for the drainage of the source of infection. Our modified technique that uses a larger-diameter tube and has the continuous irrigation and suction function through assisted negative pressure device has a low blockage rate in clinical practice, which is completely plausible. However, this was a retrospective study and the data in terms of blockage rate wasn’t recorded routinely in our department. Nonetheless, we will consider conducting a prospective study to get more information in this respect.

Comment 16[Minor Essential]: As you mentioned, in the article the indications for surgery and puncture drain are different. Open drainage normally is a choice for whom fail to manage with puncture technique in clinic scenario. Although, at the beginning, the comparison of Appach2 scores shows no difference in severity of disease, but the discrepancy of diseases themselves could impact the result to some extent, which possibly impede your conclusion at last.

Answer: We sincerely admit the limitations in the present study. Many confounding factors like selection bias are unavoidable in such a retrospective study. Even though prospectively conducted, randomized trials to compare clinical outcomes between nonoperative interventional procedures and open surgical drainage are fairly difficult to organize. As we have explained in the discussion part (Page 13, Line 271), the demographic (such as age and gender distribution), clinical (such as APACHE II score and primary cause) and abscess-related parameters (such as abscess size, location and bacteria of purulence) at baseline were all comparable among all groups, it is relatively reasonable to assume that the interference of selection bias may not be too serious to impede the conclusion.

We value highly the opinions of the respected reviewer and are considering conducting a prospective study to maximumly reduce the confounding factors and explore more precisely the differences in clinical outcomes between non-surgical and surgical drainage of intra-abdominal infections. We sincerely hope that the results can be shared in the near future and be of value.

We would like to express our sincere gratitude to the reviewers for your very constructive comments. We hope that this revised version is now acceptable for publication in BMC Surgery. Again we feel grateful for your time and
consideration in the process of revision.
I look forward to hearing from you soon.
Kindest regards,
Jianan Ren, MD, FACS