Author's response to reviews

Title: What are the risk factors of colonoscopic perforation?

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RE: MS: 5877657752626616

Dear the Editor-in-chief of the BMC Gastroenterology

Thank you very much for kindly considering our manuscript MS: 5877657752626616, entitled "What are the risk factors of colonoscopic perforation?".

We would like to submit a revised version of this manuscript, together with point-by-point reply to all comments raised by the reviewers. Any change to the manuscript has been highlighted by using BLUE-colored text.

Response to reviewer 1 (Dr. Antony Teoh)

Your kind suggestions and comments are highly appreciated.

Point-to-point reply to your comment is following:

- Since several possible risk factors influencing colonoscopic perforation (CP), such as the quality of bowel preparation, were incompletely collected and some of your suggestive parameters were not listed on our record form, we unfortunately cannot include a larger number of potential risk factors for CP on the present analysis. However, thank to your valuable comment, we have addressed the future investigations including various possible risk factors for CP at the end of the discussion section.

- We do agree with your observation on the higher incidence of CP in the present study as compared to our last review. Possible explanations of the higher CP rate in our institute have been added in the first paragraph of the discussion section.

- Definition of emergency endoscopy, together with the method of bowel preparation in this setting, has been given in the methods section.

- In our unit, the regimens of sedative drugs (propofol and fentanyl) have been uniformly used since 1999. Other sedatives (e.g. benzodiazepams) were rarely used in our patients. We think that the sedation as opposed to non-sedation, NOT the choice of drugs for sedation, affects the endoscopist’s perception of pain experienced by the patient. We have added these comments in the methods and discussion section.

- As mentioned above, there was an incomplete documentation of the quality of bowel preparation among our patients. We therefore cannot evaluate this factor between perforated and non-perforated patients. However, we suggested that this
parameter should be collected thoroughly and completely in the future study.

- During the past few years, not only the total number of colonoscopies but also the number of trainee-performed colonoscopies has increased. Although the incidence of trainee-performed CP was 0.2% (6 out of 2,938 endoscopies) which was about 1.6 times higher than that of staff-performed endoscopies, it did not reach statistic significance (Table 2). The trainee involvement could partly explain the increased incidence of CP in the present study. This additional information has been added in the results and discussion section.

- The incidence of CP following therapeutic endoscopies was significantly higher than that following diagnostic endoscopies (0.29% vs 0.1%, OR 2.85, 95%CI 1.03-7.85; p=0.035). This information has been added in the results section.

- For Table 1, the endoscopic procedures have been re-grouped into diagnostic-or-therapeutic. The possible mechanism of the perforation has been given in the last column, in the light of whether it is mechanical (tip or shaft injury) or due to a procedure.

- P-values and odds ration of the ‘independent’ factors on multivariate analysis have been added in Table 2.

- Grammatical mistakes were corrected by an English tutor at the Centre for English Language Education, University of Nottingham, United Kingdom.

Response to reviewer 2 (Dr.Gregorios Paspatis)
Your kind suggestions and comments are highly appreciated. Point-to-point reply to your comment is following:

- There were 7 colonoscopic perforations in 4,552 males (0.15%) and 8 perforations in 5,572 females (0.14%). Therefore, the incidence of colonoscopic perforation in male was slightly higher than those in female (OR 1.07, 95%CI 0.39-2.96; p=0.89). Although patient gender was also not predictive of CP in the present study, we appreciated that some studies showed the higher rate of perforation in female patients. We have therefore mentioned this point in the discussion section.

- The number of snare polypectomies has been given in the results section.

- Additional results of statistic analysis have been added in the results section and in Table 2.
Response to reviewer 3 (Dr. David Farley)
Your kind suggestions and comments are highly appreciated.
Point-to-point reply to your comment is following:
- Grammatical mistakes were corrected by an English tutor at the Centre for English Language Education, University of Nottingham, United Kingdom.

Your consideration on the revised manuscript would be highly appreciated.

Yours sincerely,
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