Author's response to reviews

Title: Laparoscopic versus conventional appendectomy - a meta-analysis of randomized controlled trials

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Author's response to reviews: see over
About Prof. Garry’s report:
Many thanks for Prof. Garry’s comments.
Several authors specialize in statistics, and use a recognized software Review Manager 5.0

About Prof. Sauerland’s report:
We deeply appreciate the constructive comments made by Prof. Sauerland, and added two studies he suggested. References and citations in the text have been re-arranged accordingly. Responses to specific comments are listed below:

1 The trial by Olmi et al. has been excluded.

2 I agree with the reviewer on the presence of heterogeneity and its impact on the results of the analysis. The heterogeneity was shown significantly for operating time, hospital stay, return to full activity, resumption of normal diet, and VAS for postoperative pain. I followed reviewer’s suggestion, and stratified the data according to age or gender, but did not explain the heterogeneity seen between the studies. A sensitivity analysis was performed by excluding studies that intention-to-treat analysis (ITT) was not adopted or unclear or reported no measure of the standard deviation. Then heterogeneity was decreased.

3 Exclusion of non-English literature indeed leads to selection bias. But we do not understand languages other than English and Chinese.

4 The trial by Bruwer et al. has been added.

5 The trial by Yin et al. has been added. There are some Chinese trials available from the Chinese databases, however, all of them were written in Chinese and could not be included in this meta-analysis. I am sorry for that I can not provide you with a Chinese trial except for the one by Wei HB.

6 Four recent trials included postoperative pain (Ignacio et al.; Kathouda at al.; Kazemier et al.; and Kaplan et al.), but only the former two trials were blinded. The absence of blindness may influence the results.

7 The flow chart (Figure 1) has been corrected. We followed the suggestion of the other reviewer, and have added International Pediatric Endosurgery Group as another international meeting. As a result, the number of retrieved studies has increased.

8 The data about length of surgery was reported with two decimals places in the primary studies, and we extracted the original data.
a) As a measure of heterogeneity, I chose $I^2$ rather than the Q test, I have explained this measure in the methods section.

b) Yes, the odds ratio was used for dichotomous outcomes in my paper.

c) For the studies with medians and ranges, standard deviations were calculated as $1/4(\text{samples} \leq 70)$ or $1/6$ of the range (samples $> 70$). I have explained this in the methods (Statistical analysis) section.

10. The name “Helmy” has been corrected in Table 2.

About Prof. Jacobsen’s report:

Many thanks for Prof. Jacobsen’s constructive comments. Because the outcome about hospital cost was left out, and some trials were included in the meta-analysis according to the other reviewer, the number and sequence of reference literature have changed a little. Responses to specific comments are listed below:

1 In the Abstract, I have added some descriptions about the therapeutic effects and safety. In addition, I think that therapeutic effects include length of hospital stay, postoperative pain and postoperative recovery, and safety is associated with the incidence of complication.

2 In the Background, I have made some changes according to your suggestion.

3 IPEG (International Pediatric Endosurgery Group) has been added, however, this did not change the number of the included studies.

4 Hospital cost has been left out.

5 I am also interested in the incidence of late adhesive obstruction. However, long-term follow-up was not conducted in most of the studies included in this meta-analysis.

6 In the methodological quality assessment: second sentence has been excluded.

7 About operating time, this outcome was included in our meta-analysis, because we want to prove that the trend toward less differences between LA and OA with respect to operating time was obvious over time.

8 About wound infection rates, it was really associated with the severity of appendicitis. However, fewer studies provided the data about whether severity of appendicitis (proportion of perforated or gangrenous appendicitis) were matched between the two groups as mentioned in table 2. Therefore, future studies should be matched for severity of appendicitis, and only then results would become more robust.
There are five studies (Cox et al.; Hansen et al.; Kazemier et al.; Macarulla et al.; and Moberg et al.) comparing the UTI. However, none of them commented on patient catheterisation and its relation to UTI.

The discussion has been corrected.

Figure 12 has been excluded, and Figure 2 - 11 have been combined and summarised as results into two tables (table 3 and 4).

I faithfully hope my paper achieves the academic standards of BMC Gastroenterology and will be published at last. Thank you very much.

Best wishes.

Yours Sincerely,
Li Xiao-Hang