

Reviewer number 2:

I question the value of including only two cases of lap appendectomy when obviously no conclusions could be drawn based on this small number.

Because the available articles on the use of drains in laparoscopic appendicectomy were only 2 and not obvious conclusions could be drawn we decided to focus the study on open appendicectomy only.

I am not sure also whether the numbers included in the study were based on any power calculation as it is quite possible that an adequately powered study could have detected other important real differences.

We have reported the power calculation and the p value of the differences of occurrences among groups for each complication in Table 1 and modified the text accordingly.

Reviewer number 1: Materials and Methods

It is not clear to me whether an acute appendicitis with an already concomitant periappendix abscess is a "complicated" appendicitis. If it is, it should be stated.

We added this sentence in the material and methods: "An acute appendicitis with an already concomitant periappendix abscess was considered in the group of the perforated appendicitis."

The main and secondary end-points of the analysis (abscess formation rate, surgical site infection rate,...) should be clearly stated.

We added this information, thanks.

Results

The author should explain why they did exclude single port surgery and NOTES from the review. If we can admit that NOTES is a totally different approach, also implying a lesser (or none) use of drains, I definitely do not understand why single port has been excluded.

We have decided to focus our study on the use of drains in open appendicectomy due to the lack of enough articles to draw any significant conclusions for laparoscopic appendicectomy (see first answer to the previous reviewer). This is now even more valid for NOTES or SILS surgery.

In the Results, the lines 12-21 of the second page and 26-until the end of paragraph should belong to Discussion. The same, in the 3rd page of Results, for lines 7-9 and 21-26, and in the 4th page, lines 24 until the end of Results section.

We have moved the paragraphs suggested into the results section.

The last few lines of "literature search" and the first ones of the following paragraph are grossly the same.

The difference is that the first lists the criteria according to which the article were excluded, the second reports the number of articles excluded according to the above mentioned criteria. We followed the PRISMA guidelines from reporting the study (Moher et al. "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement): "Point 6: Specify study characteristics... and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. Point 17: Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram."

Moreover, it seems that laparoscopic procedures were finally excluded.

Yes, correct, we have now focused the article on open appendicectomy according to the comments above and the suggestions of the previous reviewer.

Three out of 12 studies finally included did not analyze the rate of abscess formation. It is questionable that they should be included in the review.

These studies report other complications which are included in the secondary outcomes of our review such as the surgical site infections rate and therefore they have been included. We specified:" All studies reporting data on IAAs only, secondary outcomes only, or both were included in the review and data were analysed in the specific chapters."

Antibiotic regimen in the reported studies should be reported.

When available they have been reported in table 1.

Also considering the inevitable bias of such a retrospective analysis, I do not understand why some analysis on the whole series (pooling data or whatsoever...) concerning abscess rate, surgical site infection is not possible (of course, after having cited all the potential limitations of this analysis in such a heterogeneous group of articles).

We modified it accordingly.

In the paragraph dealing with "Rate of other postoperative complications", operative time and hospital stay are reported, although they are not properly complications.

We have split these data into a different section.

The paragraph about laparoscopic appendectomy starts with a brief description of the two papers: as they are described I do not see the difference between the two papers.

We have removed the paragraph about laparoscopic appendicectomy (see previous comments).

More details of the two laparoscopic papers should be given, as there is not any table to resume those numbers. For example, the percentage of patients with abscess, for example, is not enough and the absolute no. of patients with abscess should be reported. I guess the two papers may be added in the table.

We have removed the paragraph about laparoscopic appendectomy (see previous comments).

Discussion

The division in non-complicated (macroscopically normal, inflamed or purulent) and complicated (gangrenous, necrotic or perforated), with relative incidences, is not referenced.

We added the reference "Carr NJ. The pathology of acute appendicitis. Ann Diagn Pathol. 2000 Feb;4(1):46-58".

Moreover, the term complicated is confusing, since the authors refer to the rate of (postoperative) complications.

We gathered the definition complicated vs. non-complicated appendicitis from most of the previous studies referenced in our article. However, to avoid any confusion, we have specified throughout the text what complicated and non-complicated stand for (gangrenous and perforated vs. phlegmonous and catarrhal appendicitis).

Lines 9-14 of the second page of Discussion are arbitrary and non-referenced. Since they seem to me more an authors' opinion, it should be stated.

The reviewer is correct and we stated it in the text, thanks.

Line 18 of the second page of Discussion: 9/12 instead of 9/11?

We corrected the mistake, thanks.

Line 27-28 of the second page of Discussion: the sentence needs references.

We added the references and made the sentence more specific.

All the last page of Discussion should be removed, as it deals with laparoscopic appendectomy in general and does not treat the issues related to drain placement in detail.

We have removed the parts about laparoscopic appendectomy (see previous comments).

Table

Statistical significance ($p < 0.05$) should be added after any column reporting the occurrence of abscess, postoperative ileus, SSI, etc.

We added three rows of new data including power calculation, significance and Odds Ratio for each complication.

As already stated, some analysis on the whole series (pooled analysis or others..) including all the papers should be performed.

We modified the table and the text accordingly.