Reviewer’s report

Title: A decision rule to aid selection of patients with abdominal sepsis requiring a relaparotomy

Version: 1 Date: 11 December 2012

Reviewer: Carlos Ordonez

Reviewer’s report:

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Yes
3. Are the data sound? No
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
6. Are limitations of the work clearly stated? No
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? No
9. Is the writing acceptable? Yes

Major Compulsory Revisions:

The expectancy after reading the title might relay in the management of abdominal sepsis who required a relaparotomy, but the group of patients analyzed here is marked in patients with a specific abdominal septic source not patients with sepsis with an intra abdominal origin. The authors assess the criteria for the decision to re intervene or not re intervened patients with peritonitis.

The methods were certainly well described; they made a nested case control study with data from the RELAP RCT; Cases were “patients requiring a relaparotomy” consisting of patients who had positive findings at relaparotomy, indicating that relaparotomy was indeed necessary. The Controls where “patients no requiring a relaparotomy” consisting in patients in whom a relaparotomy was performed but the findings were negative or patients who recovered without the need of a relaparotomy.

Selection Bias:

According to RELAP from 70 potentially cases, 46 were selected; the exclusion of those 24 patients were related to the relaparotomy need in the more than the third day after initial laparotomy, not considering those patients who need a re intervention in on demand strategy if the reintervention was made it later. We
believe they incurred in a selection bias, in which were mostly included patients might be in the planned strategy arm.

Methods
The good prediction based in the AUC (0.8) is not consistency with the nomogram model shown, in which
• With 40 points only considered the relaparotomy need in 40%.
• With 50 points only considered the relaparotomy need in 64%.
• With 60 points only considered the relaparotmy need in 83%.
This model does not perform as well in the medium risk group as it should be. The model represents wide ranges between those probabilities, which are nearly close to choosing flipping a coin. Instead the authors recommend the use of a CT to improve the results, but despite the performing of the CT in those patients, the study were not design to include that factor.
We observed in the backward elimination, some non-significant variables were not eliminated (Heart Rate, Temperature and Difusse Contamination at Initial Operation) and were included in the predicting model. If those were statistically significant the p value should be described in the whole table.

Minor Essential Revisions:
Our recommendations were encourage for contributing a little bit this manuscript. I hope that the information will be useful to contribute this topic knowledge. Feel free to publish our final comments.

We believe that the information given by this manuscript is very important to contribute the knowledge of the surgical management in patients with intra abdominal infections and should be published.
This information becomes relevant for us, because we believe:
  a. Surgical management remains as a subjective decision
  b. There might be potential factors related with the re intervention need.
  c. All patients shouldn’t not undergo to a unique surgical strategy.
  d. The “wait and see” approach are not supported by any clinical or paraclinical predictor for a relaparotomy need.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests' below