

Reviewer 1

I appreciate the opportunity to review this manuscript titled "Laparoscopy reduces post-hepatectomy morbidity and mortality rates: study using a propensity score matching". This article presents and discusses the impact of laparoscopic surgery against liver resection. The authors compared short-term and mid-term outcome between laparoscopic liver resections and open liver resections using propensity score matching and concluded that laparoscopic liver resections showed better short-term and mid-term outcome compared to open liver resections. The topic of this article is similar to that of previous studies and the results and the discussion showed nothing new.

1. The authors conducted propensity score matching to rule out selection biases but there are still some limitations of this method. For example, unmeasured confounders cannot be excluded in this method. Instrumental variable methods or regression discontinuity methods can be used for this. The authors should discuss the limitations of this study.

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2. Table2: The postoperative mortality (30days) of open liver resection is increased after PS matching (2 to 3). That couldn't be possible.

Correction done

Minor 1. Page6, line14: "mains" should be corrected to "main". 2. Page13, line12: "morality" should be corrected to "mortality". 3. Table1: The unit of the size of the nodules should be shown. 4. Table2: Conversion rate of open liver resection should be "N.A."

Correction done

Reviewer 2

The article is interesting but I have several concerns as follows.

1. There are some typos and awkward phrasing.

Correction done

2. Robotic surgery is totally different from laparoscopic surgery and I'm not sure that can be included in laparoscopy group.

Those are different technique but robotic surgery remains a minimally invasive technique. I think this does not change the statistics.

3. in the RESULTS section, simple mistake was detected. "... There were statistically fewer lesions in the OLR group..."

Correction done

4. Even after propensity score matching, OLR group resected more CLRMs and greater number of nodules and segments, which suggests OLR group performed more complex surgeries with worse outcomes than LLR group, based on the institutions' criteria as described in the DISCUSSION. The authors should refer to this weakness.

Correction done

5. As for the laparoscopic resection of postero-superior lesions, reference should be updated to include the article, "Laparoscopic Transabdominal With Transdiaphragmatic Access Improves Resection of Difficult Posterosuperior Liver Lesions. Ogiso S, Conrad C, Araki K, Nomi T, Anil Z, Gayet B. Ann Surg. 2015"

I added it

Review 3

Considerations when preparing a peer-review report The peer-reviewer should consider and make note of the following items:

1. Is the overall structure of the manuscript complete? A complete manuscript will contain title, abstract, key words, introduction, materials, methods, experimental procedure, results, discussion, conclusion, acknowledgements, and references.

Correction done

2. What is the scientific question proposed in the manuscript? This should be clearly presented in the Introduction section, along with the pertinent background, rationale, aim, major findings and potential significance of the study. Collectively, this information should inform whether the manuscript would be interesting enough to warrant readers' attention? Evaluate the short-term and long-term results of laparoscopic hepatectomies compared with open hepatectomies.

Correction done

3. Which special (unique, innovative and/or timely, appropriate) methods and techniques are adopted in the manuscript? This should be clearly presented in the Methods section. In addition, does the manuscript provide adequate details of methods (including experimental design, subjects or materials, data collection methods, and statistical methods) to allow a reader to repeat the research? They used propensity score matching to avoid selection bias, which may be unique. However, they didn't explicitly explain how to decide which operative procedures were taken.

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4. Is the source of the data that is presented reliable? This will be indicated by the information presented in the Results section. The information in the results section will also indicate the academic significance of the main findings (including figure and tables). The source of the data was presented reliable.

The source of data is reliable. Our database is to promote coelioscopic approach still little developed

5. What are the results obtained from the data that is presented in the manuscript? This information will make up the Discussion section. It will also answer the questions of whether the results answered the proposed scientific question, achieved the aim of the study, or confirmed or rejected the hypothesis proposed in the manuscript. More bisegmentectomies were performed in the OLR group, but more segmentectomies in the LLR group. There was still a significant difference in terms of operative time, a shorter hospital stay in the LLR group, less blood loss, and fewer medical complications in the LLR group. The results supported the proposed scientific question.

Our result confirmed the scientific question, there are more bisegmentectomy in the OLR group and more segmentectomy in LLR group because we haven't separated the left lobectomy of others bisegmentectomies (4-5, 7-8,...)

6. What are the conclusions of the manuscript? These should be clearly presented in the Conclusion section. In addition, the section should present the contributions of the conclusions to the field and the weaknesses of the study, and provide future research directions. The author concluded that laparoscopy reduces post-hepatectomy morbidity and mortality rates. The weakness of the study was not mentioned.

Correction done

7. Does the manuscript cite all important, relevant and timely references?

Yes

8. Is there any indication of academic misconduct in the manuscript? I really wondered whether the expression that laparoscopic is often used for anterolateral resections (segment 2 to 6) was correct.

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9. Does the manuscript conform to the academic rules and norms and include a human and animal rights statement, institutional review board statement, informed consent statement, clinical trial registration statement, institutional animal care and use committee statement, animal care and use statement, biostatistics statement, and conflict-of-interest statement?

Yes

10. Does the manuscript describe any important new methods, problems in or directions of research?

No

11. Does this manuscript contribute to understanding the pathogenesis of disease, disease diagnosis, and treatment or prevention?

This manuscript may contribute to the progression of liver surgery.

12. Does the title of the manuscript contain key words, and is the title interesting enough to attract readers' attention?

Yes, the title was changed

13. Does the topic of the manuscript fall within the scope of World Journal

Yes

Reviewer 4

The authors describe their experience with laparoscopic liver resections and compared those with open liver resection before and after propensity score analysis. The reviewer enjoyed reading the manuscript and it gives valuable information. However, there are several important aspects need to be revised.

1. The title should be revised like "Laparoscopic approach reduces post-hepatectomy morbidity in selected patients: study using a propensity score matching", because the number studied is too small to describe about mortality and it needs to be more fair to mention in selected patients.

I have changed the title

2. These 3 articles below should be cited with discussion because they have more numbers for propensity score analysis. Ho-Seong Han, Ahmed Shehta, Soyeon Ahn, Yoo-Seok Yoon, Jai Young Cho, YoungRok Choi Laparoscopic

versus open liver resection for hepatocellular carcinoma: Case-matched study with propensity score matching *Journal of Hepatology*, Volume 63, Issue 3, September 2015, Pages 643-650 Long-term and perioperative outcomes of laparoscopic versus open liver resection for hepatocellular carcinoma with propensity score matching: a multi-institutional Japanese study. Takahara T, Wakabayashi G, Beppu T, Aihara A, Hasegawa K, Gotohda N, Hatano E, Tanahashi Y, Mizuguchi T, Kamiyama T, Ikeda T, Tanaka S, Taniai N, Baba H, Tanabe M, Kokudo N, Konishi M, Uemoto S, Sugioka A, Hirata K, Taketomi A, Maehara Y, Kubo S, Uchida E, Miyata H, Nakamura M, Kaneko H, Yamaue H, Miyazaki M, Takada T. *J Hepatobiliary Pancreat Sci.* 2015 Oct;22(10):721-7.

Long-term and perioperative outcomes of laparoscopic versus open liver resection for colorectal liver metastases with propensity score matching: a multi-institutional Japanese study. Beppu T, Wakabayashi G, Hasegawa K, Gotohda N, Mizuguchi T, Takahashi Y, Hirokawa F, Taniai N, Watanabe M, Katou M, Nagano H, Honda G, Baba H, Kokudo N, Konishi M, Hirata K, Yamamoto M, Uchiyama K, Uchida E, Kusachi S, Kubota K, Mori M, Takahashi K, Kikuchi K, Miyata H, Takahara T, Nakamura M, Kaneko H, Yamaue H, Miyazaki M, Takada T. *J Hepatobiliary Pancreat Sci.* 2015 Oct;22(10):711-20.

Correction done