Reviewer’s report

Title: Laparoscopic versus Open Left Lateral Segmentectomy

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Reviewer: CN N Tang

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This paper compared two different approaches (lap vs. open) in performing left lateral sectionectomy over a period of 4 years.

(Major Compulsory Revisions)

(1) The main drawback of this paper is the heterogeneity of pathologies in both treatment arms ranging from benign to malignant diseases despite all the cases underwent same operations.

(2) During the study period from 2002-2006, 43 left lateral lateral sectionectomies were performed in author’s institution. More than half of the cases were excluded from analysis due to various reasons. Despite the author has mentioned exclusions were decided to allow a more accurate comparison of operative time and outcome, the heterogeneity of pathologies in both treatment groups would also affect the final outcome analysis.

(3) In addition, it would be better for readers to understand how many cases with what reasons were excluded in each treatment approach.

(4) As previously described, patients with synchronous operations were excluded from analysis, but why the case with open conversion due to adherence to stomach requiring wedge resection of stomach was not excluded?

(5) In the discussion part, it has been shown to have an increased risk of cardiac arrhythmias and gas emboli when pneumoperitoneum was maintained at 16 mmHg in animal studies; however what would be the reason behind the pressures were maintained at 15-20 mmHg in author’s institution despite there had not been any clinical incidents.

(Minor Essential Revisions)

(1) Regarding the technical part, was the CUSA being used in laparoscopic approach as in open operation? And what would be the reason behind why portal clamping was just intermittently applied in open resection but not in laparoscopic arm?

(2) It would be better to report the amount of operative blood loss in both treatment arms instead of comparing the need of blood transfusion as this could be related to underlying condition rather than the treatment approach.
(3) All of the lap group patients with malignancy (n=6) suffered from colorectal liver met whereas only two patients in the open group suffered from colorectal liver met, 1 had HCC and the other one suffered from leiomyosarcoma. Although statistically both groups of patient had similar resection margins, when analyzing the 2 colorectal metastasis in the open group, one of them had margin >20mm while the other had involved resection margin.

(4) The difference of size and weight of lesion might be due to referral / selection bias. Patients having smaller lesion were referred to the laparoscopic surgeon while those patients with larger lesions were referred to other open surgeons.

(5) The operative time was similar in both groups of patients; in fact, the authors also included the first few lap patients who were indeed still in their learning curve phase. Similarly, a few patients in open group were performed by trainees supervised by consultants. Direct comparison might not be as accurate as it might think.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'