Reviewer’s report

Title: The feasibility of axial and coronal combined imaging using multi detector row computed tomography for the diagnosis and treatment of pneumothorax

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Reviewer: Ruoyu Zhang

Reviewer’s report:

I’m very pleased to have read the manuscript of Dr. Kim and coauthors, who investigated the diagnostic value of combined axial and coronal view of CT scans for detecting emphysema like changes (ELC) in 48 patients with spontaneous pneumothorax. The accuracy of the axial, coronal and combined CT views as well as surgical inspection were 73.4%, 84.0%, 92.6% and 95.7%, respectively. There was no significant difference in the accuracy between axial and coronal views. However, the accuracy of the combined axial and coronal view was higher than the axial or coronal CT views, and comparable to that of surgical inspection. The authors concluded that axial and coronal combined view improved the accuracy of preoperative detection of ELCs and may reduce the recurrence rate of VATS procedures.

Major Compulsory Revisions

This is a prospective investigation without control group or blinding. Therefore, many bias are inevitable. Beside the small patient number (n=48), the CT scans were only assessed by one single radiologist. The inspection of ELCs after thoracotomy was performed by one single surgeon. In absence of control group, it’s hard to draw a conclusion with the results presented in the manuscript.

The author must respond to these questions before a decision on publication can be reached

1. Why were patients without ELC not included in the study?
2. The authors should give more details about the surgical procedure.
3. If it is better to detect ELCs in coronal view of CT scan, why were six ELCs detected only in axial view? Why was there no significant difference in the accuracy between axial and coronal views? The authors should also make statement, why ELCs were assessed firstly in axial view and then in coronal view, not conversely.
4. In the discussion, the authors stated that “resection of as many ELCs as possible will likely reduce the recurrence rate of pneumothorax”. They should give clinical data to support this statement. In fact, in patients with many ELCs, extensive resection may make it impossible, that the remaining lung parenchyma fill the hemithorax. The key for a successful VATS-procedure in this circumstance is to produce firm pleural adhesion in addition to bullectomy, which allows the full expansion of the lung parenchyma.
Minor Essential Revisions
There are a number of errors of English writing. I believe that the professional edition or revision by a native speaker will be very helpful.

Level of interest: An article of importance in its field

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 attest that I have no financial or non-financial competing interests in relation to this paper.