Reviewer's report

Title: Video-assisted thoracoscopic surgery using mobile computed tomography: New method for locating of small lung nodules

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Reviewer: ATSUSHI WATANABE

Reviewer's report:

This is the first report on preoperative localization of pulmonary lesions with the use of the O-arm. Awareness of the O-arm can be very useful for thoracic surgeons, as well as how it can be used as an alternative method for preoperative localization of pulmonary lesions. However, the indication criteria are not described in the text. I think that all pulmonary lesions requiring conventional preoperative localization does not require the novel method. The O-arm deserves our attention. However, I have the following comments and questions:

Major Compulsory Revisions

Preoperative localization of pulmonary lesions is usually required when the lesion is small in size, deep in location, and same in solidity as lung parenchyma, such as ground glass nodule. In the authors’ institutes, what are the indication criteria for preoperative localization of the tumor? This matter should be described in the section of method after construction of subsection of indication criteria for preoperative localization. The authors should refer to the paper entitled “Need for preoperative computed tomography-guided localization in video-assisted thoracoscopic surgery pulmonary resections of metastatic pulmonary nodules” written by Nakajima et al (Ann Thorac Surg. 2010;89:212-8). Furthermore, the indication criteria for preoperative localization using the O-arm should be described in the subsection of differences in indication criteria between conventional localization and localization using O-arm.

How was the procedure of O-arm kept sterile during thoracic surgery?

Is there a special operation table for O-arm scan? If it is special, did this table cause any trouble or disturbance in the surgical procedures?

How many minutes were required for the set-up and conduction of the O-arm? This issue should be described in the section of results.

Minor Essential Revisions

It is very important to know the findings of the preoperative CT imaging when the tumor is not shown on intraoperative CT imaging using the O-arm. Is it related to the tumor size or graphical characteristic of the tumor on CT? The images should be shown in the section of discussion.

The authors describe several benefits in surgery using the O-arm in the section of discussion. In particular, the third benefit states that if the surgeon is worried
whether the tumor is completely resected or not, the O-arm can make it possible to check the additional intraoperative CT scans. Is it true? Can the O-arm make it possible to check all lesions, including GGN? I think the area near the stapler line develops atelectasis. Does this change creates doubt in order to check the residual lesion?

**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 declare that I have no competing interests.