Reviewer's report

Title: Comparison of Human Lung Tissue Mass Measurements from Ex Vivo Lungs and High Resolution CT Software Analysis

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Reviewer: Bo Qiang

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In this paper, the authors quantified tissue mass of lungs and their different sections with software using 3D CT images. The results are compared to the actual physical measurements of the tissue weight. To accurately weigh the lobar and sublobar, a technique is developed to dissect the lung tissue. The comparison reveals good agreement between the software measurements and actual weight measurements. Despite of that, there are constant biases in both lung dissection measurements and lobar dissection measurements. In the discussion part, the authors explain differences as a result of extraneous tissue. This work is meaningful for developing better “Bronchoscopic Thermal Vapor Ablation (BTVA)” treatments for patients suffering from emphysema, since the dosage of the treatments is depended on the tissue mass of the target. Overall, it is an interesting and well-presented paper.

Questions:

1. It would be beneficial to provide some more details about the algorithm the software is using and how different it is from other software packages, if any.
2. In the page 5, the authors mentioned the tissue density is assumed to be 1.0 g/ml. But some other literatures suggested much smaller density for lungs. For example, “Propagation of stress waves in inflated sheep lungs” by M. Jahed and etc. suggests ~0.2 g/ml. It would be good if the authors could provide an explanation for the discrepancy.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.