Peer Review File

Article information: https://dx.doi.org/10.21037/vats-23-21

Reviewer A

Comment 1

This review paper deals with the anatomy of the lung in relation to the now possible 3D imaging. In this paper, the authors describe the changed insights into the anatomy of the lung with regard to the variations of the vascular and bronchial structures due to the now available 3D imaging technology. They explain that it is this insight that helps in the planning of surgery and anatomical insight into certain pathologies. In the paper they describe the advantage of 3-D imaging compared to axial computed tomography. The work is well written and comprehensive.

Reply 1

We are grateful for the time spent to review our article and also for the positive comment.

==========

Comment 2

From my point of view, the biggest disadvantage of the work is the pure presentation of the described variations in prose. Especially with such titles, **the reader also expects pictures that explain these variations partly either with 3D reconstructions or schematic 3D sketches**. The purely descriptive presentation of the changes is sometimes difficult to follow and not very attractive for the reader, even for an experienced thoracic radiologist. **The tables are also hardly helpful**. It is hardly possible to follow the changes mentioned here. This disadvantage means that the review, although very detailed and very thoroughly carried out, loses much of its value and attractiveness.

Reply 2

We are deeply grateful for the constructive comments and we also agree that images and sketches would greatly enhance the value and attractiveness. **To give a more visual representation of the data, we added 3 figures and deleted table 2**: Figure 2 is a substitute of the deleted table 2 and links the content to an actual 3DCT image. Figure 3 shows the anatomical data in relation to each anatomical structure (bronchus, artery, vein) and each lobe.

We believe that the figures and editing made our review article more visually attractive and helpful for readers looking for relevant literature of each anatomy and/or lobe.

==========

Reviewer B

Comment 1

It was a pleasure to review this interesting paper. This is a very concise and well written article. The authors explain very well the improvements achieved with 3D reconstructed CT images in the knowledge of lung anatomy and anatomical variations, pointing its advantages and limitations.

Reply 1

We thank reviewer B for the precious time taken for reviewing the manuscript and also for the positive comment.

==========

Comment 2

As a review article, however, I expected to find **a more complete description of the most common anatomical features and variations of pulmonary bronchi, arteries, and veins, with its respective frequencies**, based on the reviewed original articles. The data presented in the table 3 is too simplified in my opinion and does not add significant information to the reader. Also, as a suggestion, **a brief description of the nomenclature of segmental / subsegmental branches** (maybe with a schematic figure or an illustration) would significantly improve the reading of the manuscript.

Reply 2

(1) We deeply agree with the reviewer that it would be further informative to have frequencies of each variations. And indeed, our initial intent was also to do so. **However, the nomenclature and classifications used in each paper were slightly different and could lead to incorrect information if we tried to unify the different nomenclature and anatomical frequencies in a cross-sectional way.**

Therefore, rather than trying to unify anatomical frequencies from various studies, the current aim of our article is to be a reference paper for anyone trying to find adequate literature on the 3D image-based lung anatomy, such as a thoracic surgeon prior to surgery, a physician analyzing variations of lung anatomy, or anyone searching for detailed 3D images and classifications of the lung.

(2) We understand that nomenclature of segments varies among studies and countries and that clarification would be helpful. **We added Figure 1 that depicts the basic nomenclature of segmental branches** based on Yamashita (reference 5) as a reference for the readers. We did not extend it to subsegments, since our review does not discuss the details of subsegmental anatomy.