Peer Review File

Article information: https://dx.doi.org/10.21037/jtd-23-1715

Reviewer A

The review is about a very interesting topic and it is very interstingly structured in its composition. However, some major revisions are adviced:

Comment 1: - to improve the use of the English language, as sometimes the sentences look like the straight translation of another language (plausible the one of the authors). In addition, the sentences sometimes does not seem connected and the writing is not fluid, therefore sometimes it results difficult to understand easily the argument expressend. To sum up, a revision of the structure of the sentences and their expression and position inside the paragraph should be reviewd to allow a better understanding of the concept to the reader.

Reply: Thank you for your review. We ordered external language revision of the manuscript by English native speaker.

Changes in text: External language editing service (AME) have made numerous changes throughout the text (marked in red; Pages 2-17 Lines 21-427). Please find Language Editing Certificate attached.

Reviewer B

This review article is well-sourced and nicely detailed. The figures are particularly helpful in visualizing the variations as described.

Comment 1: One slight revision is requested - on page 6, line 146, the authors cite information from Cory & Valentine, but the reference is not included in the list of cited references.

Reply: We thank the editor for such a positive evaluation. We must have overlooked this reference.

Changes in text: Cory RA, Valentine EJ. Varying patterns of the lobar branches of the pulmonary artery. A study of 524 lungs and lobes seen at operation of 426 patients. Thorax 1959;14:267-80. Was added as citation 31 to the text. (marked in red; Page 7, line 148; Page 17, lines 475-476)

Reviewer C

I would like to thank the editor and authors for providing me with a great chance to review such an interesting article. This article focused on vascular variations of lungs, which would become more important in era of segmentectomy. This paper is highly valuable and attractive. I have several comments on it.

Comment 1: Schematic views of each lobe should be refined. It would be challenging to understand which aspect authors described the anatomies. For example, in Figure 2A, authors showed a front view of pulmonary artery. However, Figure 2E suggested a lateral view of each segment. In addition, schemas are a little bit inexplicable. Authors should use three-dimensional vivid image to show anatomies.

Reply: Thank you for the positive review of our article. It was our intention that the figures would make it easier for a reader to visualize variations mentioned in the text. We tried to present the most complex or clinically viable variations as figures. In most cases of figures regarding the right lung we preferred the same view and tried to be consistent, however, in some, it was in our opinion more practical to suggest other views. Figure 2E shows the venous pattern Iab, which is the most common one and should make it easier to visualize other variations mentioned in the text relevant to the RUL. In this case, it was more practical to use a lateral view to show intersegmental veins' anatomy. Using three-dimensional vivid images would be preferred, however, we are not able at this time to create them.

Changes in text: Unfortunately, none.

Comment 2: Figure 6 did not show schematic views of variations appropriately. You can not see the name of each branch. Authors should revise appropriately.

Reply: Thank you for your comment. Unfortunately, the Figure 6 table must have been faultily inserted into the article, because in our file names of each branch can be seen. We will upload the figure again.

Changes in text: Figure 6 was updated.

Comment 3: In Figure 6, what is subtype F and G? Besides, I do not understand the sentence between lines 230-232. Authors should clarify names of subtypes.

Reply: We thank you for this comment. Subtypes F and G as well as A and D are vascular patterns of the apicoposterior and anterior segmental arteries of the LUL. Classification is in fact not ours. It refers to Maciejewskis's classification method and Gao et al. article (it is mentioned on Page 9, line 230). We decided to replace the description of Figure 6A with a more detailed one.

Additionally, we replaced the sentence between lines 230-232 for a more precise description of arterial patterns.

Changes in text: The sentence in the Figure 6 legend “Subtype F of the apicoanterior trunk pattern with common artery to anterior segment and 593 apicoposterior subsegment, anterior view” was replaced with “Subtype F of the apicoanterior trunk pattern with common artery to anterior segment (A3aL-A3cL) and apicoposterior subsegment (A1+2aL) and artery to apicoposterior segment (A1+2bL, A1+2cL), anterior view” (Page 26, line 592-593).

The sentence “The apicoanterior trunk type is into three subtypes, with subtypes F and G being the most common, and independent A3L type into 4, with A and D being the most common” was replaced by “The common trunk of A3L and A1+2L type can be differentiated into 3 subtypes: subtype E with a common trunk of A3L+A1+2(a+b)L and separate A1+2cL, subtype F with a common artery of A3L+A1+2aL and separate artery A1+2(b+c)L, and subtype G with a common artery of A3L+A1+2aL and two separate arteries to subsegments S1+2b and S1+2cL. The independent A3L type can be further divided into 4 subtypes: subtype A with separate A3L, A1+2(a+b)L, and A1+2cL, subtype B with A3L, a common artery to S1+2(b+c)L, and separate A1+2aL, subtypes C with A3L, and three subsegmental arteries, and subtype D with A3L and a common artery to all three subsegments of S1+2L. Subtypes F, G, A, and D are the most common” (Page 10, lines 250-258).

Comment 4: In line 142, “for the said vein” would be a typo. “for the intersegmental vein” would be better.

Reply: Thank you for your comment and insightfulness. We changed the text accordingly.

Changes in text: “for the said vein” was replaced by “for the intersegmental vein” (Page 6, line 142).

Comment 5: In line 176-177, authors said, “It was not clear whether the authors distinguished it from accessory A6R”. This statement would be wrong. Subsuperior segmental artery can be distinguished from A6R variant if you check the bronchial anatomy. Pulmonary artery is defined by the bronchial branch. Authors should be aware of this issue. For this reason, it would be nonsense to discuss only vascular patterns not bronchial patterns. If you want to mention pulmonary vascular patterns, you should mention bronchial patterns.

Reply: We thank you for your insight. After the revision we noticed that mistake. We agree with you that bronchial patterns should be a subject of a review. The review of both bronchial and

vascular patterns and variations is not possible, because of the volume of data and the word limit of Narrative Review. However, we may focus our future article on this subject. We decided to delete this wrong statement.

Changes in text: Text “It was not clear whether the authors distinguished it from accessory A6R” was deleted. (Page 7, line 176-177)

Comment 6: . In line 348, authors said< “Even though no report of segmentectomy in RML was found”. This statement is completely wrong. There is a few reports on segmentectomy of right middle lobe shown as below. Authors shall read these papers before discussing.

Reply: We appreciate the reviewer’s feedback. We apologize for our oversight. We deleted the statement and replaced it with a more general one.

Changes in text: Statement “Even though no report of segmentectomy in RML was found, its lobectomy and other procedures taking place in this region warrant attention.” was replaced with “Due to the many possible vascular variations of the RML, this region warrants attention.” (Page 13, line 348-350)