

Peer Review File

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Review Comments-reviewer A

The paper written by the following Authors: Siyu Xi, Yuan Gao, Haishan Zhang, Xin Chen, Wenfei Tan, Liang Guo, Yingxian Sun, entitled “Anatomical spatial distribution of the bilateral coronary ostia and aortic valve commissures relative to the aortic arch” presents an interesting study on the anatomical spatial distribution of the bilateral coronary ostia and aortic valve commissures relative to the aortic arch.

Although the paper is interesting, I have some major concerns:

Title

The title reflects the results presented here.

Introduction

In the introduction part Authors should add some overall information in paragraph/paragraphs dedicated to artificial systems applied in blood flow simulation as well as medical image processing for engineering tools predicting blood hemodynamic.

- Computational Fluid Dynamic Technique for Assessment of How Changing Character of Blood Flow and Different Value of Hct Influence Blood Hemodynamic in Dissected Aorta, <https://doi.org/10.3390/diagnostics11101866>

Reply: This article does not address hemodynamic issues and anatomical relationship is only discussed.

Methods

- More information about the patients should be included in the manuscript.

Reply: We have mentioned in *Baseline characteristics* (see Results /Para1).

- Authors should indicate more information about the spatial factors analyzed in the manuscript.

Reply: This study found a fixed angular relationship between the coronary ostia or aortic valve commissures and the IC of the aortic arch. And this was a single-center retrospective study with a small number of patients. We think the research about the spatial factors is less meaningful.

- If statistical tools were applied, it should be also commented.

Reply: We have mentioned in *Statistical analysis* (see Methods/Para4).

Results

Authors indicated “For the 50 cases with TAVs, the angle was more accurate. Specifically, the mean angle from the IC to the NCC/LCC was $-16.2^{\circ} \pm 13.2^{\circ}$, the mean angle from the IC to the LCC/RCC was $99.4^{\circ} \pm 13.0^{\circ}$, and the mean angle from the IC to the RCC/NCC was $148.219.6^{\circ} \pm 13.0^{\circ}$.”. What is the practical aspect of this data.

Reply: This relationship could help to establish an individualized implantation method that would enable commissural and coronary alignment to be achieved in TAVR.

Review Comments-reviewer B

1. Keywords should be within the numbers of 3-5. Please check and revise.

Keywords: Anatomy; aortic arch; inner curve (IC); transcatheter aortic valve replacement (TAVR); commissural alignment; coronary alignment

We have revised as advised that “Anatomy; aortic arch; inner curve (IC); transcatheter aortic valve replacement (TAVR); coronary alignment”.

2. Please define all abbreviations shown in Figure 1 in figure legends.

We have added as advised.