

Dear Dr. Samanidis,

We are pleased to inform you that, after preview by the Editorial Office and peer review as well as CrossCheck and Google plagiarism detection, we believe that the academic quality, language quality, and ethics of your manuscript (Manuscript NO.: 72398, Observational Study) basically meet the publishing requirements of the *World Journal of Cardiology*. As such, we have made the preliminary decision that it is acceptable for publication after your appropriate revision.

Upon our receipt of your revised manuscript, we will send it for re-review. We will then make a final decision on whether to accept the manuscript or not, based upon the reviewers' comments, the quality of the revised manuscript, and the relevant documents.

Please follow the steps outlined below to revise your manuscript to meet the requirements for final acceptance and publication.

Dear Editor,

Thank you for your positive decision about our manuscript. We try to revise our manuscript according to reviewer's comments. We hope that the revised manuscript will be accepted for publication.

Thank you.

Sincerely,

George Samanidis, MD, PhD

Cardiac Surgeon

Email: gsamanidis@yahoo.gr

Reviewer#1:

Scientific Quality: Grade D (Fair)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Major revision

Dear Reviewer 1, thank you for your comments.

Specific Comments to Authors:

Comment 1: This article requires significant editing and improved grammar, for example: "Female was 37 (25%) patients", "Existing and current guidelines recommend replacing the ascending aorta if its size is reached 5.5cm in patients without Marfan syndrome".

Answer 1: Thank you for your comment. We revised our manuscript.

Changes 1: The changes were made in the revised manuscript.

Comment 2: There are too few patients with neurological impairment and too many variables into the regression model, which leads to unreliable results.

Answer 2: Thank you for your comment. In multivariable model added the variable which had $p < 0.20$ in univariable regression analysis. Only these variables added in multivariable analysis. In addition, the differences between groups regarding the presence or not of the pre-op neurological dysfunction and hemodynamic instability and correlation test between other variables were evaluated (non parametric or parametric or correlation test). Larger studies are needed in order to confirm our hypothesis. However, our results (over 100 pts enrolled) showed that the diameter of dissected ascending aorta was not associated with adverse events.

Changes 2: No.

Reviewer #2:**Scientific Quality:** Grade C (Good)**Language Quality:** Grade B (Minor language polishing)**Conclusion:** Major revision

Dear Reviewer 2, thank you for your comments.

Specific Comments to Authors:

Comment 1: The topic is very interesting and important in clinical practice. The authors correctly pointed out to inefficiency of current guidelines for ATAAD management regarding diameter suggesting immediate ascending aorta replacement surgery. Furthermore, the diameter of ascending aorta in patients with diagnosed ATAAD was not associated with preoperative adverse events. But, something more important we need, the influence of AA diameter on early hospital and delayed (final) outcome.

Answer 2: Thank you for your comment. We totally agree with you in the context to inefficiency of current guidelines regarding the dissected ascending aortic diameter. In our study, we found that the pre-op diameter of ascending aorta was not associated with pre-op adverse event. However, larger and randomized trials need to confirm our results. Regarding the influence of AA diameter on early and late outcomes (30-day mortality and long-term follow up), it is very attractive hypothesis and we considered this. Our results interpretation based on different surgical techniques. These results could not be adapted to other surgical technique for ATAAD correction. In our study population, most of patients underwent at ATAAD correction under deep hypothermic circulatory arrest with retrograde cerebral perfusion. A smaller number of patients underwent at ATAAD correction under mild hypothermic CA and ACP. As you can see we had two subgroups with different surgical techniques. When we tested these groups, no differences were observed regarding 30-day mortality and new onset post-op neurological dysfunction. Our results were unexpected: 30-day mortality and post-op neurological dysfunction were same in two groups. In addition, different arterial cannulation site, degree of hypothermia during circulatory arrest, surgical technique (hemiarch, FET, Sun's technique) and aortic cross clamp time (before or after circulatory arrest) create completely heterogenic groups of patients who underwent ATAAD correction and affect post-op morbidity and mortality. For these reasons we did not present our results. Preoperative neurological dysfunction and hemodynamic instability are risk factors for worse short and long-term outcomes. We focused on preoperative adverse events and our purpose was to challenge the medical community (cardiologist, GP and other medical specialties) about this emergency aortic disease. Furthermore, our study showed that diameter of dissected aorta is smaller than expected (median diameter=5 cm). In conclusion, our analysis showed that no difference of dissected ascending aorta diameter was observed between patients who died in hospital vs. who did not die ($p=0.75$). In addition, the diameter of dissected ascending aorta was not correlated with post-op ICU and hospital stay ($r_s=-0.08$, $p=0.45$ and $r_s=-0.02$, $p=0.85$, respectively)

Change 2: We added the last paragraph in section "results"

Comment 2: What is the purpose of Figure 1 and 2? Median diameter of AA and diameter distribution? Unnecessary.

Answer 2: Thank you for your comment. We removed the Fig 1 and 2.

Change 2: We removed the Fig 1 and 2 from the revised manuscript.

EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

Science editor:

This manuscript evaluates the diameter of the anatomical ascending aorta in patients undergoing ATAAD repair. The language of this manuscript needs to be revised, please add the most important effect of AAA diameter on early hospitalization outcomes in ATAAD patients, and does Figure 1 complete? , please verify. Language Quality: Grade C (A great deal of language polishing) Scientific Quality: Grade C (Good)

Answer to Science Editor:

Thank you for your comment. Changes were made in text about language corrections. We removed the Fig 1 and 2 from the manuscript. We tested if dissected aortic diameter was associated with in-hospital death, ICU and hospital stay. Our results showed that there was no difference of dissected ascending aorta diameter in patients who died in hospital vs. who did not die ($p=0.75$). In addition, the diameter of dissected ascending aorta was not correlated with post-op ICU and hospital stay ($r_s=-0.08$, $p=0.45$ and $r_s=-0.02$, $p=0.85$, respectively)

Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Cardiology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, "Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...". Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.

Answer to company editor-in-chief:

Thank you for your comment. Changes were made according to your comments.