Response to editor

With this manuscript we aim to make a concise, yet in-depth, overview of the epidemiology, clinical course, classification systems, and the existing treatment modalities for non-A non-B aortic dissections. Concomitantly, through our recent experience with the successful management of an AAD and the accompanying images, we aim to provide some useful insights, in an attempt to decipher the topic.
We express our sincere gratitude to the reviewer for their insightful and constructive comments, which have undoubtedly augmented the scientific merit of our manuscript. It is our firm belief that the incorporation of these valuable suggestions has significantly strengthened the quality and impact of our research, and we are confident that our revised manuscript will meet the journal´s high standards required for publication.

Response to reviewers

We would like to thank the reviewer for his/her kind remarks. Indeed, most comments were truly insightful. We made every effort to incorporate most of the concerns/suggestions raised. With these suggestions onboard the new version of the manuscript is more robust and reads better. Below we provide a point-to-point clarification to the comments.

Reviewer #1

Specific comments:

"Please use AAD instead of AD"

Authors´ response: We changed the term "AD" to "AAD" throughout the manuscript, as per reviewer request.

Pls re-phrase "to coin the term"

Authors´ response: It has been replaced with "to introduce the term".

Pls correct "an entry, intimal, tear" – too many commas

Authors´ response: It has been corrected with "an entry intimal tear, located beyond…"

Pls be more precise and add incidence from the previous reports. Remove "a maximum of 11% ". Also, pls add similar review article on the same topic in your references (Howard C, et al. Non-A non-B aortic dissection: A literature review. J Card Surg. 2021 May;36(5):1806-1813.). The authors nicely reported incidence in the table 1.

Authors´ response: "a maximum of 11% " has been replaced with "varying from 2.8 to 16.5%"

Pls remove completely "pathophysiology" paragraph as it is already described in the above review article and duplicate study needs to be avoided for ethical reasons.

Authors´ response: Pathophysiology paragraph has been removed, as the reviewer suggested.

Pls describe subtle dissection entity under "Clinical Presentation" (Sef D, et al. Subtle aortic dissection in a patient with severe aortic regurgitation and undiagnosed bicuspid aortic valve: A case report with a literature review. J Card Surg. 2021 Sep;36(9):3417-3420.)

Authors´ response: Although the proposed case report and review refers to a supra - annular aortic intimal tear starting from the right coronary/noncoronary cusp commissure, which did not extend into the ascending aorta", we included it in the clinical presentation as the reviewer suggested by making a short reference to subtle dissection entities in general.

Pls correct to "the authors highlighted"

Authors´ response: The correction has been made.

Pls remove "they are "unable" to address dissections regarding aortic arch involvement" and correct to "they lack clarity regarding…"

Authors´ response: The correction has been made as the reviewer suggested.

Pls re-phrase "is in order " as it is most common treatment modality but not the only one.

Authors´ response: The above has been rephrased with "are the most common, yet not exclusive, treatment options".

Pls remove "can be easily assessed and addressed in time"

Authors´ response: The above has been removed.

"Valentine et al." – missing reference at the end of the sentence & Missing references after The FET technique description.

Authors´ response: References have been added.

Pls abbreviate "spinal cord injury" as SCI

Authors´ response: The term has been abbreviated.

Pls correct "shrinkaged"

Authors´ response: Correction has been made; the correct passive form "shrank" has been used.

The authors lack discussion about the treatment of non A non B AAAD in regards to the most recent studies and this section needs to be improved. Pls refer to the most recent studies such as:

a. Spanos K, et al. Management of Ascending Aorta and Aortic Arch: Similarities and Differences Among Cardiovascular Guidelines. J Endovasc Ther. 2022 Oct;29(5):667-677.

b. Tian C, et al. Surgical treatment patterns and clinical outcomes of type B aortic dissection involving the aortic arch. J Vasc Surg. 2023 Apr;77(4):1016-1027.e9.

c. Kosiorowska M, et al. Non-A non-B acute aortic dissection with entry tear in the aortic arch. Interact Cardiovasc Thorac Surg. 2022 May 2;34(5):878-884.

Authors´ response:

The following parts have been added to the manuscript:

1) “In the same frame, Kosiorowska et al., stressed/pointed out the contemporary tendency towards an earlier intervention on the altar of a favorable aortic remodeling[7]”.
2) “However, the study conducted by Tian et al., employing different hybrid methods (type I-III) to treat 46 patients, has demonstrated promising outcomes with respect to overall mortality and complication rates, in comparison to surgical or endovascular repair[25]. Taking into account the lack of guidelines regarding postoperative thromboprophylaxis, caution must be exerted to avoid the graft´s occlusion[26]”.
3) “results in accordance with Tian et al. paper[25]”.
4) “Likewise, a study published in 2022, observed that 67% of the initial TEVAR cases (10/15), demanded reintervention, with eventually 4 patients deceasing during the first 30 days [7]”.

The authors should be congratulated for improving their mini-review of the literature on non-A non-B aortic dissection. However, they did not address some of the important questions/comments and they have even skipped the most important question so I will repeat - What is the novelty of this mini-review in comparison with previously published similar review article (Howard C, et al. Non-A non-B aortic dissection: A literature review. J Card Surg. 2021 May;36(5):1806-1813.)?

We would like to express our gratitude to the reviewer for providing us with valuable insights and for always recommending up-to-date studies. With this manuscript we aim to make a concise, yet in-depth, overview of the epidemiology, clinical course, classification systems, and the existing treatment modalities for non-A non-B aortic dissections. Compared to Carino D et al. meta-analysis, apart from the epidemiology and classification sections which are not included in the aforementioned study, our review delved more into the available treatment techniques. Compared to Howard C et al., our study delved deeper into the available and proposed classification systems. We mentioned the definitions provided by both the American Heart Association and the 2019 consensus of the European Association for Cardio-Thoracic Surgery, as well as explained the MPS classification score. Additionally, we cited both Rylski B, et al. Acute non-A non-B aortic dissection: incidence, treatment and outcome. Eur J

Cardiothorac Surg. 2017; 52: 1111-1117 and Qanadli SD, et al. A New Clinically Driven Classification for Acute Aortic Dissection. Front Surg. 2020; 7: 37, along with the TEM classification system, which we thoroughly elucidated. Supplementary, with the reviewer´s Number ID: 03755399 substantial comments, our study now a. includes the subtle type of dissections (included in neither of the previous reviews), b. in terms of treatment, embodies the most recent studies (eg Tian C, et al. Surgical treatment patterns and clinical outcomes of type B aortic dissection involving the aortic arch. J Vasc Surg. 2023 Apr;77(4):1016-1027.e9 newly proposed hybrid technique). Last but not least, in an attempt to decipher even more the topic and to provide some useful insights, we briefly referred to our recent experience with the successful management of an AAD and the accompanying images. Altogether we believe that our revised manuscript has been improved, providing a concrete and complete overview of the topic, including the latest publications.

I still have several comments that limit the scientific value of the manuscript:

1. I strongly recommend to add similar review article on the same topic to your references (Howard C, et al. Non-A non-B aortic dissection: A literature review. J Card Surg. 2021 May;36(5):1806-1813.) since the topic is very similar and it is important to acknowledge the recent work done by other authors.

Our reference No.5 is the "Howard C, et al. Non-A non-B aortic dissection: A literature review. J Card Surg. 2021 May;36(5):1806-1813"

2. Pls re-phrase the subtitle to "Treatment modalities"

The subtitle has been changed as per reviewer suggested.

3. Pls re-phrase "to any kind of surgery"

The "any kind of surgery" has been replaced with "it has been explicitly shown that surgical intervention surpasses medical treatment in the case of a non-A non-B dissection".

4. Pls add the most recent and important AHA guidelines to your discussion (doi: 10.1161/CIR.0000000000001106. Epub 2022 Nov 2.)

The AHA guidelines have been added to the manuscript (Reference No.19). The aforementioned guidelines are cited in the following sections: a. Classification system, b. Treatment modalities, and c. Elephant trunk and FET.

5. I would suggest mentioning important diagnostic pathways after the section "Clinical Presentation" (PMID: 32503754 DOI: 10.1016/j.hfc.2020.03.002) and discussing the value of preoperative CT that is being increasingly used in our routine practice and can detect incidental findings in aortic patients such as non-A non-B aortic dissection (PMID: 32865197 DOI: 10.1093/icvts/ivaa160). This should improve the important discussion about diagnostic approach missing in your review article.

Unfortunately none of the authors has access to this particular study (DOI: 10.1016/j.hfc.2020.03.002), however we added a part attributed to the diagnostic approach, based on the AHA guidelines 2022 and the DOI: 10.1093/icvts/ivaa160 (Reference No. 22), at the end of the first paragraph of the "Treatment Modalities" subtitle.