Author`s Response to reviewers` comments

First, we would like to express our sincere appreciation to all reviewers for their interest in our manuscript and valuable comments. We have responded to all reviewer comments and questions to the best of our ability and have incorporated suggestions into our revised manuscript.

Reviewer #1:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Title. Does the title reflect the main subject/hypothesis of the manuscript? No. The subject of the case report was a traumatic proximal renal artery pseudoaneurysm localized in the aortic tunical media which was treated endovascularly. The stated title suggests the type A intramural haematoma was the subject of the case report and treatment which can be misleading. The title does not capture accurately the pathology described in the case report. The focus of the report is on the rarerity of aortic intramural haematoma coexisting with a proximal renal artery pseudoaneurysm localized within the aortic tunica media and the treatment of the pseudoaneurysm with endovascular technique. A suggested title is endovascular treatment of traumatic proximal renal artery pseudoaneurysm localized within the aortic media coexisting with a Stanford type A Intramural haematoma

Thank you for your kind comments. We agree with your opinion and have revised the title as recommended.

2 Abstract. Does the abstract summarize and reflect the work described in the manuscript? To a large extent the case summary is reflective of the whole report. the background of the abstract and its conclusion however need some more information to reflect the position of the case report The opening statement "Aortic intramural hematoma (IMH) associated with aortic branch tear after blunt trauma is rare" does not capture fully the exciting subject mater. The

case of an intramurally located renal artery pseudoaneurysm is even more rare, and this is the first case report!

Thank you for your comment. We rephrased and added new sentences in the background section of the Abstract, as described below.

Aortic intramural hematoma (IMH) associated with aortic branch tear and intramurally located pseudoaneurysm after blunt trauma has not been reported. Here, we report a case of progressive type A aortic IMH associated with a pseudoaneurysm arising from the injured proximal renal artery after blunt trauma.

3 Key words. Do the key words reflect the focus of the manuscript? Yes

Thank you for your comments.

4 Background. Does the manuscript adequately describe the background, present status and significance of the study? Yes the statement "Recently, acute aortic syndrome (AAS) was defined as aortic dissection, IMH, and penetrating aortic ulcer (PAU)" needs a reference.

Thank you for your comments. We added a reference.

this statement "To the best of our knowledge, aortic IMH caused by aortic branch artery tear following blunt trauma has not been reported" if kept in this form adds a different interpretation to the case report. it needs to be clarified since it is at variance with the core interpretations in the case report as this seeks to suggest the source of the haematoma in the stanford A IMH in this patient is as a result of the renal injury unless the renal pseudoaneurysm is also being referred to as an IMH. if that is the case, then an additional class to the stanford or debakey's classification of aortic intramural haematoma not originating from tears in the vasa vasorum need to be considered strongly.

Thank you for your comments.

The sentence was revised and moved to lines 18–19 in the Introduction section, as described

below.

“To the best of our knowledge, aortic IMH caused by aortic branch artery tear with intramurally located pseudoaneurysm after blunt trauma has not been reported.”

5 Methods. Does the manuscript describe methods (e.g., experiments, data analysis, surveys, and clinical trials, etc.) in adequate detail? Yes. some minor additions would enhance the work

Thank you for your comment.

6 What are the contributions that the study has made for research progress in this field? Yes. the findings add to knowledge on the presentation of renal pseudo aneurysm, its association with aortic intramural haematoma and its treatment

Thank you for your comment.

7 Discussion. Does the manuscript interpret the findings adequately and appropriately, highlighting the key points concisely, clearly and logically? To a large extent, the findings are logically interpreted. However, some statements need more clarity. There seemed to be two proposed interpretations to the data by the authors for which a clear position need to be made, Other possible interpretations to the data exist and should be discussed by the authors against their preferred interpretation of the data. in the first paragrapth of the discussion, these statements below are not clear. "As a result, blood flow at the level of the injured proximal renal artery proceeded from the true lumen, through the interrupted origin of the renal artery, within the intramural blood collection, and finally within the intramural hematoma itself. This intramural blood collection was defined as a pseudoaneurysm within the hematoma of the false lumen, bounded by the media as shown in our study" These statements are not logically interpretation of the fact.

Thank you for your comments. We agree with your opinion; hence, the above two sentences have been excluded from the text.

"With the advent of improved technology in the last two decades, more intimomedial tears are being identified in patients with IMH. Thus, a better distinction may be that AD contains two intimomedial tears: an entry tear from the lumen into the media and a re-entry tear back into the aortic lumen. core tips Investigations revealed a pseudoaneurysm arising from the proximal renal artery Localized in the aortic media and Stanford type A IMH" A more logical analysis of the the above observation is that, with technological advancement, more patients previously misclassified as having IMH are now correctly identified as having aortic dissection. Suggesting a different definition for aortic dissection is not the most logical next step after the observation.

Thank you for your comments.

The classical IMH definition was considered a hematoma from rupture of the vasa vasorum. However, recent MDCT and surgical reports confirmed the existence of small intimomedial tears (reference 2).

We included new sentences in the first paragraph of the discussion section, as described below.

“As mentioned in the introduction, IMH is classically considered secondary to the rupture of the vasa vasorum. However,~

This statement: "This tear became a natural entry site, allowing communication between the true and false lumen. As a result, blood flow at the level of the injured proximal renal artery proceeded from the true lumen, through the interrupted origin of the renal artery, within the intramural blood collection, and finally within the intramural hematoma itself. This intramural blood collection was defined as a pseudoaneurysm within the hematoma of the false lumen, bounded by the media as shown in our study." should not be made as a fact. Also the description of proposed mechanism by which the ct findings came to be is not clear. Are the findings and their applicability/relevance to the literature stated in a clear and definite manner? Is the discussion accurate and does it discuss the paper’s scientific significance and/or relevance to clinical practice sufficiently?

Thank you for your comment.

As mentioned earlier, we have deleted these sentences.

8 Illustrations and tables. Are the figures, diagrams and tables sufficient, good quality and appropriately illustrative of the paper contents? Do figures require labeling with arrows, asterisks etc., better legends? a few minor corrections need to be made to the diagrams and suggested enhancements needed. incorrect labelling of pictures in figure 1. picture marked A is supposed to be picture marked B and vice versa. for ease of recognition, picture D in figure 1 and picture C in figure two can be juxtaposed and labelled before and after in order to ease the reader's ability to make the comparism between the sizes of the aneurysm as described. Concerning figure 3, the small insert showing CT scan taken 7 days prior should be labelled as such in picture A

Thank you for your comment. We corrected the errors in Figures 1 and 4.

9 Biostatistics. Does the manuscript meet the requirements of biostatistics? N/A

10 Units. Does the manuscript meet the requirements of use of SI units? Yes

11 References. Does the manuscript cite appropriately the latest, important and authoritative references in the introduction and discussion sections? Yes Does the author self-cite, omit, incorrectly cite and/or over-cite references? No

12 Quality of manuscript organization and presentation. Is the manuscript well, concisely and coherently organized and presented? Is the style, language and grammar accurate and appropriate? Yes

13 Research methods and reporting. Authors should have prepared their manuscripts according to manuscript type and the appropriate categories, as follows: (1) CARE Checklist (2013) - Case report; (2) CONSORT 2010 Statement - Clinical Trials study, Prospective study, Randomized Controlled trial, Randomized Clinical trial; (3) PRISMA 2009 Checklist - Evidence-Based Medicine, Systematic review, Meta-Analysis; (4) STROBE Statement - Case Control study, Observational study, Retrospective Cohort study; and (5) The ARRIVE

Guidelines - Basic study. Did the author prepare the manuscript according to the appropriate research methods and reporting? the care check list was used by the authors

14 Ethics statements. For all manuscripts involving human studies and/or animal experiments, author(s) must submit the related formal ethics documents that were reviewed and approved by their local ethical review committee. Did the manuscript meet the requirements of ethics? Yes .

The main findings of this report is a proximal renal artery pseudo aneurysm intramurally located in the aorta coexisting with a Type A aortic intra mural haematoma successfully treated with a covered endovascular stent. The hypothesis being that blunt trauma resulted in proxima renal artery intimal tear resulting in the pseudoaneurysm located in the aortic wall. the problem was solved by ensuring the covered stent used for treatment projected into the abdominal aorta to sufficiently cover the intimal tear and prevent type 1A endoleak. The manuscript is relevant, it adds a previously undescribed presentation of renal artery trauma to literature and its possible treatment. that intramurally located renal pseudoaneurysms can exist, and can be treated by covered stent. It can potentialy expand on the classification of aortic intramural haematoma. presenting the concept that apart from tears from vasa vasorum, proximal branch artery injuries can lead to intramural haematoma. I think an important lesson to highlight is that, in proximal renal pseudoaneurysm, the covered stent placed should cover and overlap the oriface of the aneurysm. Suggesting a length of overlap similar the one used in your treatment may be a treatment technique that may produce reproducible results and should be studied. Since, a case report is an opportunity to set a hypothesis, a possible hypothesis would be that having the stent overhung the pseudoaneurysm or project slightly into the abdominal aorta by the measured length can prevent Type 1A endoleak. A possible explanation for the CT imaging findings is being proposed as such the description should be clear and without ambiguity regarding its meaning.

Thank you for your comments

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade A (Priority publishing)

Conclusion: Minor revision

Specific Comments to Authors: I think the title is appropriate and interesting The case description should be ruled as a trauma patient. since many data are missing such as airway, respiration, neurological cardiovascular and exposure What was the reason for requesting the tomography? For example,the patient presented associated abdominal injuries, macroscopic hematuria, peritoneal irritation. Or is it simply hospital protocol to request a tomography in trauma I think that the discussion should start because of how infrequent an aortic injury in blund trauma and then describe the mural hematoma and, in the same way, highlight its complications when it is not treated.

Thank you for your comments.

Our hospital protocol is for patients with any trunk pain from blunt trauma to undergo computed tomography examination.

Reviewer #3:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: This article has given us some insight about good treament for type A intramural hematoma associated with renal artery injury after blunt trauma. Please add the following：

1. Did the patient have make urinalysis? Did the patient have hematuria? Kidney function test? How did the parameters change before and after treatment？

The patient had no gross hematuria or evidence of abnormal kidney function in laboratory examinations.

We added this in the laboratory examinations section of the case presentation section.

2. Are the patient's basic vital signs, such as body temperature, recorded？ Did secondary infection present? How to effectively avoid the occurrence of infection?

The initial body temperature was 36.0℃. We added the body temperature in the physical examinations section of the case presentation section.

The intervention was performed in a sterile environment. Therefore, we did not cover any other antibiotics.

3. How to effectively increase or ensure the stability of the stent?

After placing the stent in the blood vessel, the balloon was expanded to fix the stent in the blood vessel.

4. Do you use anticoagulants? If so, how can re-bleeding be effectively avoided?

The patient was taking aspirin only, and there was little risk of bleeding.

Reviewer #4:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors:

Comments: The authors present on anadult male who presented after blunt trauma by a fallen tree with left flank pain.Investigations revealeda pseudoaneurysm arising from the proximal renal artery and Stanford type A intramural hematoma (IMH).The patient received endovascular treatment with successful exclusion of the pseudoaneurysm. A postoperative CT scan showed complete disappearance of the IMH and pseudoaneurysm. The subject of this manuscript is of value, and I have a few comments for this study:

1. Figures and Figure Legends section: There are many errors in the Figures and Figure Legends section. Some marks (asterisk,arrow, arrowhead) described in the Figure Legends do not be fund in the figures. The Figure Legends of figure a and b in Figure 1 may be misplaced (reversed). The same problem exists in Figure 4 (b and c).

Thank you for your comments. We corrected the errors in Figures 1 and 4.

2. Did the IMH exist before, or after blunt trauma this time, the author should describe clearly.

There were no previous examinations, but the patient's symptoms started after the injury. Therefore, the IMH is considered to occur after blunt trauma. We also included this information in the Final diagnosis section, as described below.

"The final diagnosis of the presented case is progressive type A intramural hematoma associated with renal artery injury after blunt trauma."

3. Plain (Non-Contrast) CT images should be added to better show the IMH.

Thank you for your comment. However, please note that non-contrast CT images cannot show IMH better.

4. Whether the intimal injury of the renal artery is the entry tear of IMH, the authors should describe clearly, and show in Figure 4. The authors should discuss why IMH disappeared after renal artery stent graft implantation.

Thank you for your comments. Figure 4 shows why IMH disappeared after the second renal artery stent-graft implantation. The last paragraph in the Discussion section described this:

"Therefore, the injured area of the proximal renal artery may not have been fully covered by the stent graft in the first procedure, resulting in the type 1 endoleak. Considering that the pseudoaneurysm had small communication through an intimomedial tear of only 1–2 mm in diameter and that the tear origin of the renal artery was located too close to the aorta, the stent graft should have been safely placed as far as possible into the aorta beyond the intimomedial flap to prevent the endoleak, rather than adequately covering it."

5. I feel that the terminology description of IMH, intramural blood collection and pseudoaneurysm is a bit unclear in the text. Should the author describe the definition or concept of pseudoaneurysm in the DISCUSSION section. Is the IMH or intramural blood collection in the article a pseudoaneurysm? The descriptions in the various sections below appear to be inconsistent or contradictory. Are they accurate or appropriate: DISCUSSION section: This intramural blood collection was defined as a pseudoaneurysm with in the hematoma of the false lumen, bounded by the media as shown in our study. Figure Legends section: Figure 3.B: The CT scan taken 45 days afterinjuryshowed that the intramural blood collection markedly decreased in size; (It seems to be described here as a pseudoaneurysm in the previous discussion section?). Figure 4. A: The intimomedial tear (yellow circle) of the proximal renal artery occurs first by trauma, leading to intramural blood collection, and finally within the intramural hematoma itself (yellow asterisk). This intramural blood collection is defined as a pseudoaneurysm (yellow arrow).B: Although the size of the pseudoaneurysm appeared to decrease.....

Thank you for your comments. We added new sentences at the end of the first paragraph in

the Discussion section, as described below.

"The focal out-pouching saccular aneurysm arose from the proximal portion of the left renal artery, a pseudoaneurysm, associated with an aortic intramural hematoma."

6. Finally, I feel that the conclusion (Endovascular treatment including stent graft placement can be an effective and safe treatment strategy for traumatic main renal artery injury) is not completely consistent with the title of the article. There is no conclusion about IMH.

Thank you for your comment. We changed the sentence as follows:

Endovascular treatment, including stent-graft placement, can be an effective and safe treatment strategy for IMHs associated with intimomedial tears.

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6 EDITORIAL OFFICE’S COMMENTS

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

(1) Science editor:

The manuscript has been peer-reviewed, and it' s ready for the first decision.

Language Quality: Grade B (Minor language polishing)

Scientific Quality: Grade C (Good)

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Clinical Cases, 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. 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. In order to respect and protect the author’s intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has

used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is ‘original’, the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Before final acceptance, when revising the manuscript, the author must supplement and improve the highlights of the latest cutting-edge research results, thereby further improving the content of the manuscript. To this end, authors are advised to apply a new tool, the RCA. RCA is an artificial intelligence technology-based open multidisciplinary citation analysis database. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: https://www.referencecitationanalysis.com/.

Round 2

Author 1. In the Figure Legend (Figure 1), the letter representing the picture should be in uppercase or lowercase (abcd or ABCD) as required by the journal. Thank you for your comments. We revised the figure legends as lowercase as recommended. 2. The period of hematoma may be known according to the density of intramural hematoma (IMH) in CT plain scan images. A fresh hematoma or an acute hematoma appears as a slightly high-density, which is one of the signs of IMH. Later, the density of the hematoma may gradually decrease until the demarcation with the artery is unclear (at this time, plain CT scan is not helpful for the detection of IMH). It is recommended that the author should add a CT plain scan image. Thank you for your kind comments. We added plain CT image in figure 1b as recommended. Figure 1b. The initial chest computed tomography (CT) scan taken one hour after injury showed Stanford type A intramural hematoma (IMH) (red arrowheads), which represent slightly hyperdensity on precontrast image (figure in red-border box).