Dear Editors and Reviewers:

Thank you for your letter and for the reviewers' comments concerning our manuscript Entitled "Antegrade in Situ Laser Fenestration of Aortic Stent-graft During Endovascular Aortic Repair: A Case Report and Literature Review" (Manuscript NO.: 71245, Case Report). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have studied comments carefully and have made correction which we hope meet with approval. The main corrections in the paper and the responds to the reviewer's comments are as flowing:

Responds to the reviewer's comments:

Reviewer #1:

1. Response to comment: -The main issue is to better explain the technique that the authors used to orientate the sheath and perform the fenestration. - The authors should better explain how they performed real-time guidance for fenestration (2 different projections? specific landmarks, etc.)

Response: We have re-written this part according to the Reviewer's suggestion. The corrections also attached here.

"Thereafter, a 10-F steerable sheath (FuStar, Lifetech Scientific Corp.) was inserted into the stent graft from the left groin through the short leg. The ostium of the RRA was displayed in real time by contrast injection from the brachial access point. Meanwhile, the tip of the steerable sheath was adjusted to align with the ostium of the RRA (Fig. 2A), and the site of perforation was determined via 2 different fluoroscopic projections. A 4-mm balloon catheter (Bard Rival, Bard Peripheral Vascular) was passed via the sheath followed by a laser fiber (GIGAA Laser, Wuhan, China), which was calibrated to deliver energy pulses of 18 W in 3 seconds, to fenestrate the membrane of the thoracic aortic stent graft. "

2. Response to comment: Minor English revision is required. Abstract/Core tip: Change the word "noval" with "novel". Introduction: OK Case report: - Please change 'biochemistries" with 'biochemistry' - Change "endoleakage" with "endoleak" throughout the text. - "Mustang" not "Mustung"

Response: We have made correction according to the Reviewer's comments and repolished this paper.

3. Response to comment: "as early as possible". Please define the time frame (12h, 24h, 2 days?) - Please report details (type, brand name) of the laser fiber.

Response: We have further improved the accuracy of detail and expression. The corrections also attached here.

"Emergency surgery was performed 24 hours after admission."

"a laser fiber (GIGAA Laser, Wuhan, China)"

4. Response to comment: Figures: The legends for Figs 2 and 3 are inversed. Please correct. Response: We have corrected the location of the picture.

Reviewer #2:

1. Response to comment: -Description of preoperative clinical presentation and treatment should be included in a unique section, without so many subtitles. -The patient suffered ruptured AAA or symptomatic AAA, please detail this clinical aspect?

Response: We have re-written the "CASE PRESENTATION" according to the Reviewer's suggestion.

2. Response to comment: -Preoperative CT should be more detailed: diameter of proximal and distal neck, diameter of aortic bifurcation, size of renal artery....any sign of active bleeding? Response: We have rewritten this part and added relevant details. The corrections also attached here.

"Preoperative computed tomography angiography (CTA) showed a juxtarenal AAA (JAAA) with a diameter of 50.4 mm, a thick hematoma and multiple penetrating aortic ulcers (PAUs). Preoperative sizing showed an aortic ulcer with a hematoma below the right renal ostium, a short (4-mm-long) infrarenal aortic neck, and a proximal healthy landing zone of approximately 16.0 mm between the two renal arteries. The diameter of RRA was 6.1 mm. The diameter of the aortic bifurcation was 32 mm. The diameter of the vessel at the lower edge of the left renal artery was 20.9 mm. The diameter of the vessel at the lower edge of the RRA was 20.5 mm. The distance from the lower edge of the RRA to the aortic bifurcation was 91.2 mm. The distance from the lower edge of the RRA to the bifurcation of the right iliac artery was 124.3 mm (Fig. 1A-D)."

3. Response to comment:-Which was the rationale of using Endurant-Medtronic vs other available endografts: was the unique available graft in that moment or did you consider any particular characteristic of this graft that may improve the outcomes?

Response: To maintain RRA perfusion, there must be adequate space between the proximal end of the stent and aortic wall when the bare stent region is unreleased. The length of the bare stent segment of the Endurant-Medtronic stent graft is approximately 15 mm, which ensures that this condition is met. Moreover, tip capture delivery allows precise proximal or distal adjustment of the position, even after the deployment of three stent rings. The short stent segment (10 mm) and M-shaped proximal stents provide wall apposition and circumferential conformability. In addition, our experience shows that Endurant-Medtronic stent grafts have better compliance and thinner external delivery sheaths, which may be more suitable for use in complex situations.

4. Response to comment:--What about the oversize? -Procedure duration? amount of contrast used? -Any post-operative (even transient) renal damage?

Response: The diameter of the aneurysm neck calculated by software (3Mensio, Pie medical imaging, the Netherlands) was 20.7 mm. Due to the short aneurysm neck (20 mm), we chose an oversize of 20%, as previously reported in the literature. The total procedure time was 2 hours. The fluoroscopy time was 45 minutes, and the total amount of contrast used was 100 mL. The estimated blood loss was 20 cc. Because the left renal artery was not involved, RRA perfusion was maintained during the operation. Postoperatively, there was no abnormal renal function. We have added relevant details in the article.

5. Response to comment:--as to the selection of renal stent, why did you choose a self exp graft? Do not you think that Balloon exp graft may be better in order to obtain an adequate flaring? Response: Yes, the balloon expandable graft may be better in accurate positioning and adequate flaring. But balloon expandable covered stents were not yet available in our center. In order to avoid endoleak, we chose a covered stent (GORE VIABAHN) after adequate predilation.

6. Response to comment:-- Check the legends of Fig 2 and fig 3 (they were probably inverted) Response: We have corrected the location of the picture.

7.Response to comment:-- Table 2: add the columns for technical success rate and clinical outcomes.

Response: We have added columns for technical success rate and clinical outcomes in Table II. We defined the technical success rate is "number of successful fenestrations /number of target vessels". The clinical outcomes includes many aspects. The main aspects were described in the table: complications, the mortality rate, the stent patency rate and the secondary procedure rate. We also added the corresponding "technical success rate and experimental results" in Table I.

Response to the Editorial Office's comments and suggestions

Response: We have rewritten the "CASE PRESENTATION" and added relevant details. The article has been repolished. And we have submitted the figure and table documents as required.

We tried our best to improve the manuscript and made some changes in the manuscript. These changes will not influence the content and framework of the paper. We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval. Once again, thank you very much for your comments and suggestions. Looking forward to hearing from you.

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