Reviewer’s report

Title: Endovascular repair combined with staged drainage for the treatment of infectious aortic aneurysm: a case report

Version: 0 Date: 27 May 2020

Reviewer: Giulio I. Illuminati

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The Authors report the case of a 58-year-old man admitted to the hospital for a mycotic aneurysm of the infrarenal aorta, just above its bifurcation, sustained by Salmonella enteridis, successfully treated by endovascular aneurysm repair (EVAR), followed by a staged, percutaneous drainage of periaortic infectious collection.

The case is interesting and well presented. I have two major and a few minor suggestions for the Authors.

Major Remarks:

# 1. In the reported case the infectious etiology of the aneurysm was quite evident on a clinical basis and on the mycotic aspect of the aortic "bleb" at angio-CT scan. Diagnosis was furtherly confirmed at bacteriological culture of the drained periaortic fluid. However, sometimes infection, as the cause of an arterial aneurysm may be difficult to demonstrate, especially in the preoperative patient's workup, whenever signs of infection are lacking. In such instances a useful diagnostic tool could be a scintigraphy with marked leukocytes. The authors may want to address this issue with a sentence in the Discussion section of the paper.

# 2. The standard, reference treatment of arterial infectious aneurysms is complete excision of the infected vessel/graft and periaortic collection, followed by either in situ arterial reconstruction with autologous material/allograft or extra-anatomic bypass grafting. The major concern with in situ prosthetic repair is the relatively high incidence of recurrent graft infection, due to persistent bacterial seeding on the arterial wall, as the authors correctly state in the Discussion. Nonetheless, EVAR may be justified as a bridge treatment in order for the patient to recover from infection and eventually undergo "radical" treatment under better general conditions. In the long-lasting absence of any sign of recurrent sepsis, EVAR/percutaneous drainage may be considered as a definitive treatment. In the reported case a paramount information is lacking, i.e., the length of the patient's follow-up. The Authors state that the patient recovered with normal imaging (Case presentation, page 4, line 59) but do not specify whether the recovery was durable and for how long time or if follow-up was essentially limited to the post-procedure period. This information should be clearly reported.

Minor remarks:

1) Throughout the whole manuscript: "infected aneurysm" would better read "infectious aneurysm"

2) Abstract section, page 2, line 9: "...endovascular repair owe better early outcomes." would better read "...endovascular repair yields better early outcomes."

3) Background section, page 3, line 14: "...changes in early images were slight..." would better read "...changes in early images may be minimal..."
4) Background section, page 3, line 22: "…and was successfully treated…” would better read "…and the patient was successfully treated…”
5) Case presentation, page 3, line 32: "…pain radiating in the back…” would better read "…pain radiating to the back…”
6) Case presentation, page 4, line 15: "…small lymph nodes indicating existence of aortitis …" would better read: "…small lymph nodes consistent with the diagnosis of aortitis…”
7) Case presentation, page 4, line 43: "…an emergence endovascular…” would better read "…an emergency endovascular…”
8) Case presentation, page 4, lines 51-52: "…CT-guided puncture and drainage was undergone." would better read "…CT-guided puncture and drainage were performed…”
9) Discussion section, page 5, line 34: "The most concern…” would better read "The major concern…”
10) Discussion section, page 5, line 37: "… as is not resected…” would better read "…as the aneurysm is not resected…”

Overall, a professional English language editing is desirable.

Are the methods appropriate and well described?
Yes

Does the work include the necessary controls?
Yes

Are the conclusions drawn adequately supported by the data shown?
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
Not relevant to this manuscript

Quality of written English
Needs some language corrections before being published
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