Reviewer’s report

Title: An acute rupture of a sinus of Valsalva aneurysm into the right atrium: a case report and a narrative review

Version: 0 Date: 12 Dec 2019

Reviewer: Pei-Chun McGregor

Reviewer's report:

This is a case of ruptured sinus of Valsalva aneurysm in a young asian female who was initially misdiagnosed and treated for PE. A continuous murmur later led to echocardiography that revealed a rupture RCC into reportedly both right sided chambers.

1. Why did the patient have to wait for CTPA to be done one day after presentation?

2. Case presentation on page 4 did not explicitly mention that patient was empirically treated for PE which is contraindicated in a ruptured SVA. This was mentioned later in the Discussion. The story would flow better if this was in the Case presentation.

3. Page 5 image references are not grammatically correct, should say: "Videos 1,2" "Figure 4" instead of "video 1,2" and "figures 4".

4. Page 5 mentions that the tricuspid valve is normal but videos 1 and 2 caption say that there may be a flailed segment - conflicting comments. What do the authors believe the mobile filamentous structure is in Video 1?

5. Middle of page 5 says: "The aortic root was not dilated...pending in the right atrium and ventricle..." I'm not sure what this sentence means. This sentence needs to be reworded.

6. Figure 4B mentions SVA in the RV but image clearly shows the ruptured SVA in the RA, not RV.

7. Figure 5 (CTPA) does not clearly demonstrate SVA ruptured into RV. Consider other images that clearly demonstrates this - perhaps a different cut.

8. Incorporating intraoperative surgical images is a nice touch.

9. Videos all have the patient's name and SSN as well as technician's name - these need to be deleted.

10. Videos 4-5 do not definitely show the shunting into the RV. Color Doppler show color above the tricuspid annulus, not below.

11. Any 3D TEE images to corroborate authors' claim that SVA also ruptured into the RV?

This is an interesting case but without clear images to show rupture into both right sided chambers as authors are claiming. Also, this paper does not seem to afford any additional teaching points to current literature. Significant revisions need to be made to address above comments.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.
I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors’ responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal