Peer Review File

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Reviewer A

1. Page 1 Line 15: suggestion some or a few instead of many parts of the world, (it is still not in many parts of the world yet. It is still rare)

   Reply: This sentence has been deleted.

2. Page 2 Line 8: I would remove (of Chinese ethnicity) syphilitic aortitis has nothing to do with ethnicity

   Reply: The phrase denoting ethnicity has been deleted.

3. Page 2 Lines 10-12: It would rather write that (clinically she appeared septic or would rather write that she was hypotensive, tachycardic, tachypneic)

   Reply: Instead of numerical values of vital signs, descriptors of the vital signs were now used.

   Change: She was hypotensive, tachycardic and tachypneic. (Page 5, Line 21)

4. Page 2 Line 14: (systemic reviews are otherwise unremarkable)- I would delete this.

   ***Reply** and **Change**:* This sentence has been deleted.

5. Page 2 Line 16: (Past medical history) You mentioned that she was previously healthy. This can come under the risk factors for cardiovascular disease.

   ***Reply** and **change**:* We deleted the section head "past medical history" for clarity.

6. Page 5 Lines 12-13: If coronary ostia is obscured but not occluded, why retrograde cardioplegia was not tried? Add explanation please. Page 5 Line 13: how cold? (referring to cold fibrillatory arrest) minus 34 degree, 25 or 18? One can explain that although we had the possibility of cardioplegia via right coronary artery or retrograde cardioplegia and then if the heart had arrest to remove the thickened fibrotic tissue, we choose cold fibrillatory arrest…

   Reply: I believe the original description may have led to some confusion as to the chain of thought involved in myocardial protection. After giving cold blood cardioplegia (4°C) via the aortic root, the heart can be arrested, but it recovered a slow junctional rhythm shortly after aortotomy. At that moment in time, that it would only take a few minutes to debride the aortic root and then give antegrade cardioplegia directly so we did not use retrograde cardioplegia.

Change: We revised the section to reflect this chain of thought. (Page 7 Lines 20- 23, Page 8 Lines 1-2)

7. Page 6 Line 3: (Size 19 On-X mechanical aortic valve) A rather small aortic valve for a very young patient. I would mention that there was the possibility of a free style aortic valve prosthesis or expand the aortic root with bovine patch we still chose a 19 valve as due the patients low BMI or we had aortitis and to reduce the risk of complication we chose a 19…

   Reply: Thank you for the insightful comment. We elected not to perform a root enlargement or replacement, because the body surface area was only 1.44m^2. Given the presence of aortitis and the poor tissue quality, a more aggressive operation may lead to trouble.

   Change: This comment was included in the article. (Page 11-14)

8. Page 6 Line 7: (Postoperative course)- I would like to summarize it.

   Reply *and* ***Change***: Thank you for the suggestion. We simplified the section on postoperative course, preserving the necessary information as required by the CARE checklist. (Page 8 Lines 16-23)

9. Page 7 Lines 19-20: I would like to add what the guidelines suggest about surgical coronary osteoplasty and endarterectomy. The investigations show that the coronary artery rather sooner is occluded if one perform it. Current practice suggest CABG or PCI for coronary artery disease.

   Reply: Unlike atherosclerotic coronary artery disease, there are no established guidelines for the treatment of syphilitic ostial coronary stenosis. Evidence comes in the form of case reports or series. We deleted the section on PCI because it detracts from the key message of the case report. We believe it makes the case report more concise.

   Change: The limitations of the current evidence base were mentioned in the discussion section. (Page 9 Lines 4-7)

Reviewer B

1. Despite the intriguing case, the manuscript is poorly written.e.g., Introduction should include “known” things and “unknown” things to be clarified in this report with some references.

   Reply: Thank you for your suggestion. We have rewritten the introduction to describe the historical aspects of cardiovascular syphilis as a disease entity. We believe it will prove to be of more interest for the readership. (Page 4, Section “introduction”)

2. The management is incorrect (Page 5, line 9). Myocardial protection of this case is not

challenging problem. If the coronary artery ostium stenosis or occlusion exists, retrograde cardioplegia should be prepared. Conclusion is incorrect for same reason.

Reply: I believe the original description may have led to some confusion as to the chain of thought involved in myocardial protection. After giving cold blood cardioplegia (4°C) via the aortic root, the heart can be arrested, but it recovered a slow junctional rhythm shortly after aortotomy. At that moment in time, that it would only take a few minutes to debride the aortic root and then give antegrade cardioplegia directly so we did not use retrograde cardioplegia.

Change: We revised the section to reflect this chain of thought. (Page 7 Lines 20- 23, Page 8 Lines 1-2)

3. On-X valve should include company and nation information (Page 6, line 3).

   Reply and Change**:** The phrase "CryoLife, Kennesaw, GA, U.S.A." was included behind On-X valve in the article. (Page 8 Line 11)

4. Dose of antibiotics should be added (Page 6, line 9).

   Reply and Change**:** We have added dosage of Doxycycline used, which is 100mg BD. (Page 8 Line 18)

5. The last sentence of the Discussion section should be deleted as presented treatment strategy is not recommended generally.

   Reply and Change**:** We concur. The last sentence was deleted.