Author's response to reviews

Title: Right-sided congestive heart failure symptoms in patients with extensive pulmonary sarcoidosis

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Author's response to reviews: see over
Dear Adrian,

Re: Manuscript MS: 1526395483735561 - Right-sided congestive heart failure symptoms in patients with extensive pulmonary sarcoidosis

Thank you for your careful consideration of our manuscript. We are grateful for the suggestions of the reviewers, and attach the revised manuscript that incorporates these.

We hope that the manuscript is helpful to your reader in assessing patients with sarcoidosis, and symptoms of right heart failure. The case demonstrates the utility of cardiac magnetic resonance in assessing the right ventricle for cardiac involvement, and thus differentiating the cause of right heart failure in a patient with known pulmonary sarcoidosis, but only mild pulmonary hypertension.

Yours sincerely,

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Reviewer 1:

The main limitation of this paper is the poor quality of the MRI images. The reported findings are not clearly seen in the images. We have made every effort to include high quality figures in the revised manuscript.

Please label the figures. The figures are described in the legend. The figure number is attached to the raw file number. The panels are labelled within the figure.

Figure 4 is a low resolution cardiac MRI image. Please use a higher quality image from SSFP sequence. This has been corrected.

Figure 5 is not clear. This is the most important figure in the entire case. I am surprised that there is no delayed enhancement in the LV in the MRI.

We agree that it is interesting that there is only minimal myocardial late enhancement in the left ventricle in this patient (mid-wall pattern in the septum). However, this is not inconsistent with previously published observations (including in autopsies) and highlights the heterogeneous nature of cardiac sarcoidosis. Although the RV can be more difficult to visualize due to its thin-walled nature, we have amended the figure 5 to be as clear as possible showing the important, and definite finding of RV late enhancement.

Referee 2

We are grateful for the thoughtful suggestions of the referee and their appreciation of the importance of the manuscript in the context of a common but difficult clinical problem.

English language: There are several typographical and spelling mistakes in the text. The use of the English language and sentence construction can be improved. If the authors are not first language English speakers, perhaps they can consider obtaining editorial assistance for polishing up the manuscript. We appreciate this suggestion. Authors with English as their first language worked to improve the language in the manuscript.

Major compulsory revisions:
The discussion needs to discuss the prognostic significance of LGE in sarcoidosis. Importantly, the discussion needs to highlight the role of multiparametric CMR in comprehensive tissue characterisation in patients with sarcoidosis and include the role of strain imaging, T2-weighted (oedema) imaging, as well as pre-contrast T1 and T2 mapping (for assessment of interstitial fibrosis and inflammatory burden) post-contrast maps for extra-cellular volume estimation. This has been included in the discussion.

It may also be useful for the authors to include commentary on the indications for ICD and/or permanent pacemaker insertion in patients with sarcoidosis and the feasibility of CMR after these interventions. This has been added to the discussion.

In both the introduction and conclusion, the authors give misleading information
about CMR being an emerging technique in the diagnosis cardiac sarcoidosis. It is important for the authors to describe that CMR is in fact the preferred investigational technique for cardiac sarcoidosis.

We appreciate that “emerging” is no longer appropriate term for CMR in this context, and the wording has been changed.

Minor issues:

Abstract, second paragraph: typographic error in first sentence of paragraph titled ‘case presentation’. The word ‘server’ should be severe.
In the same sentence above, it is recommended that ‘secondary right ventricle cardiac involvement’ is changed to ‘secondary right ventricular involvement’.
The abstract has been rewritten to address these issues.

Background, fourth sentence: “As up to 25-80% of deaths from sarcoidosis is cardiac...”. Typographical error: is should be replaced with cardiac.
This paragraph has been restructured to address grammatical and typographical errors.

Also, the authors need to check on the accuracy of this claim, and several reports are contradictory. The finding of cardiac sarcoidosis at autopsy is not supporting proof that the cause of death was indeed cardiac in nature.
We acknowledge this. We have clarified the text to ensure this potential bias in the literature is understood.

Background, fifth sentence: In patients with cardiac sarcoidosis, left ventricle is involved...”. Left ventricle should be preceded by the ‘the’.
Corrected.

Background, seventh sentence: “Cardiac magnetic resonance (CMR) is emerging as the preferred investigation in the diagnosis of cardiac sarcoidosis.” I think the authors should be made aware of the fact that CMR is already established as the investigation of choice for suspected cardiac sarcoidosis.
CMR emerged as the preferred cardiac investigation over a decade ago for cardiac sarcoidosis.
Corrected.

Background, eighth sentence: The word “server” should be replaced with the word ‘severe’.
Corrected.

In the same sentence, ‘and’ should be added between the words diagnosis and describe.
This sentence has been restructured.

Case presentation, third sentence: “The clinical examination and biochemistry was unremarkable...”. In this sentence, “was” should be replaced with ‘were’.
Corrected.

Case presentation, last sentence: “... insertion of an implantable cardio defibrillator.” Implantable cardio defibrillator should be changed to ‘implantable
"cardioverter-defibrillator".
Corrected.

Discretionary revisions:
The last paragraph of the discussion can be omitted as it is not relevant to the rest of the discussion.
This suggestion was helpful- and the paragraph has been omitted. This improves the flow of the discussion, and helps focus the reader on the important aspects of the case.

Reviewer 3

Need to discuss limitations of cardiac MRI, such as potential difficulty of determining if delayed enhancement is present vs. artifact given then RV wall.
A discussion of the limitations of CMR has now been included (p 6; last paragraph of discussion).

The authors briefly mention that inflammation can be detected but should mention which MRI modality is used to detect inflammation vs. fibrosis.
This has been added in the discussion.

The authors mention that cMRI is more sensitive than any other technique for which (a reference) should be provided if this is true.
This sentence has been removed. IT was considered unnecessary in the context of the following paragraph in which the sensitivity and specificity are discussed in the context of other imaging modalities.

Briefly mention how cMRI complements PET scans
This has been added to the discussion on page 5.