

Dear Editors and Reviewers:

On behalf of my co-authors, we thank you very much for giving us an opportunity to revise our manuscript, we appreciate editor and reviewers very much for their positive and constructive comments and suggestions on our manuscript entitled “Myocarditis in a 42-year-old man presenting with typical acute myocardial infarction: A case report and literature review”.(ID: No.51441).

Since Shandong Provincial Qianfoshan Hospital has become the First Affiliated Hospital of Shandong First Medical University during the submission period; we have changed the names of these authors' units in the revision manuscript.

The 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. Revised portion are marked with yellow highlight in the paper. 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: In the abstract (line 58) it is stated that after a year fibrosis was better than before, probably meaning less than before. This is speculation based on reduced LGE (line 311).

Response: Thank you for your correction. We have changed better to less (line 60 in the revised version).

2. Response to comment: Line 133: showed edema>showed hyperintensities indicating edema.

Response: Thank you for your comment. We have carried on the supplementary description to the manuscript (Line 140-145 in revised version). Here is our correction: Cine CMR imaging showed wall motion abnormalities (mid septal, apical septal, and apical anterior), and anterior walls was obvious thicker than the normal walls (Fig. 5A1), the thickest part of the ventricular wall was approximately 20 mm. Fat suppressed T2-weighted imaging (FS-T2WI) showed the edema of the mid septal, apical septal, and apical anterior walls (Fig. 5A2).

3. Response to comment: Fig5ABC: unclear due to the use of images made at different angulations. It absolutely necessary to show T2, native T1 and LGE images depicting the same anatomy from similar points of view and scaling, to provide some idea how these MRI results match, that is corroborate each other. As presented now, the MRIs (also in Figs 6,7) merely serve as decoration providing the reader little confirmation of the correctness of the interpretations.

Response: We are very sorry for our incorrect writing cause. It is really true as Reviewer suggested that we should describe the CMR clearly. The three scans are basically the same sequence, mainly including CINE, T2WI, FS-T2WI, LGE (axial position, four-chamber view, two-chamber view and three-chamber view). The axial images acquired in the three scan are strictly divided into 17 segments according to 2013 CMR Pocket Guide by Bernhard Herzog and John Greenwood. However, due to the limited space, we have selected several

representative and easy to compare images, and we can provide more images if necessary.

Because the three scans in the apical septal, the LGE and FS-T2WI seems clearer, we selected the apical segment as the LGE and edema contrast image for the convenience of comparison. In CINE sequence, the mid septal was clearer, so we selected the axial image of the mid segment as the comparison of myocardial thickness.

We have re-written this part according to the Reviewer's suggestion (Line 189-Line208 in the revised version). We also add figures about this part as following.

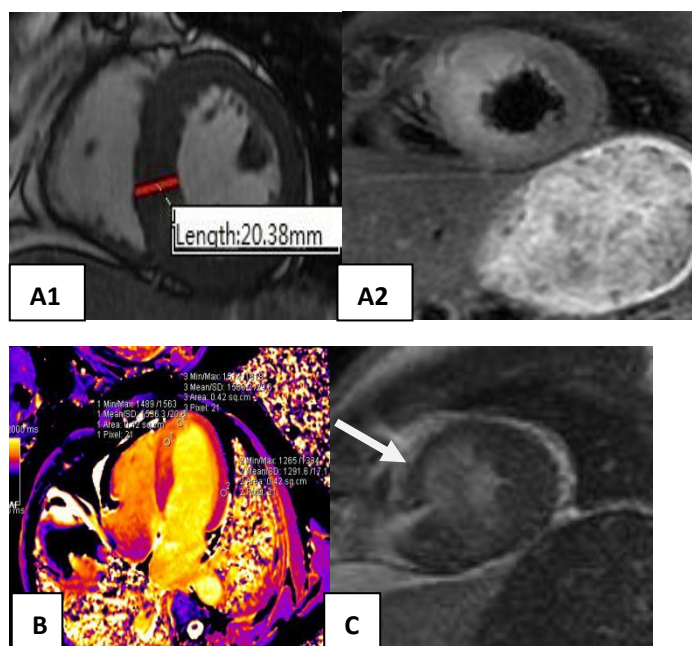


Fig5. (A1) In CINE Sequence at the left ventricular end-diastolic, the ventricular wall was 20.38 mm which is more thickened than the normal (about 12mm). (A2) FS-T2WI showed the obviously edema. (B) The T1 mapping showed the T1 value of the walls are obviously higher than the normal walls (1586.3ms VS 1291.6ms) in the interventricular septum in the first CMR, showed the edema. (C) Enhancement of the endocardium and middle myocardium of the middle and apical septal walls on late gadolinium enhancement (LGE).

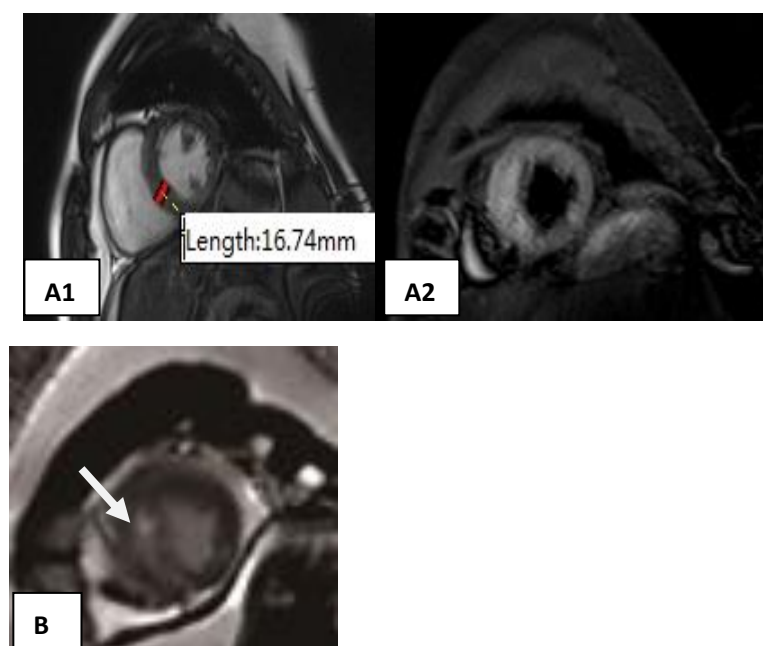


Fig.6 (A1) In CINE mid septal at the left ventricular end-diastolic, showing that the wall was less extensive after 12 days; the ventricular wall was 16.74 mm which is thicker than normal. (A2) FS-T2WI showed the obviously edema. (B) The anterior and interior enhancement moved to the middle myocardium on LGE.

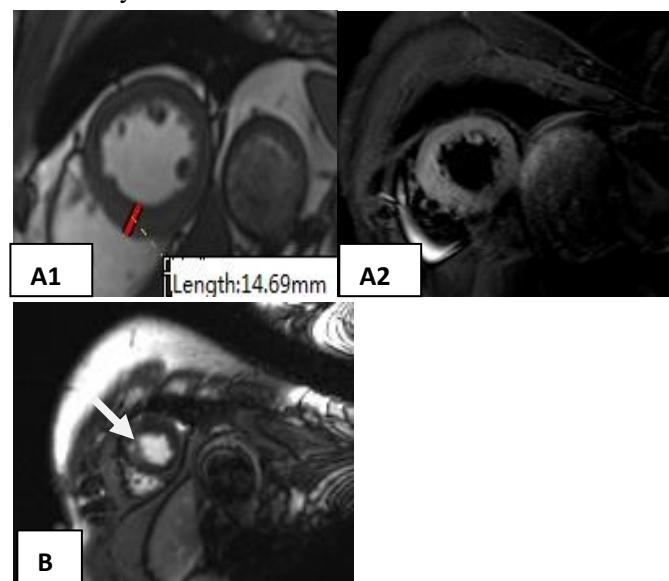


Fig.7 (A1) In CINE at the left ventricular end-diastolic, mid septal myocardium showed the ventricular wall was 14.69mm. (A2) In FS-T2WI, apical septal myocardium signal is normal (B) The enhancement in the middle myocardium on LGE, which is only one point, was obvious less than before.

4. Response to comment: The discussion must be shortened.

Response: We have simplified the article according to your request, including the diagnosis, treatment plan and manifestation of myocarditis. The simplified part was marked with red-strikethrough and yellow highlight. The original discussion is 1400 words, and the simplified discussion is 1100 words.

Special thanks to you for your good comments.

Reviewer #2:

1. Response to comment: The authors report that "A notable feature of our case is that we performed CMR three times in 13 months". This appears to be too weak a differentiator from similar cases already published. The uniqueness of this case needs to come out better.

Response: Thank you for your comment. Here is our new addition (line 328-331 in the revised version). A feature of our case is that we performed the coronary angiography and we observed a myocarditis complete process from severe edema of the ventricular wall to significant reduction in short-term review and dissipation after 13 months.

2. Response to comment: The manuscript is well written and well researched. The submission that "early CMR has a strategic role in the differential diagnosis" does add value.

Response: Thank you for your approval of our paper.

3. Response to comment: The authors can possibly present a flow chart showing workflow in cases mimicking as myocardial infarction with normal Coronary angiography. There has to be justification for delaying CAG for 5 days despite acute symptoms and ECG Changes.

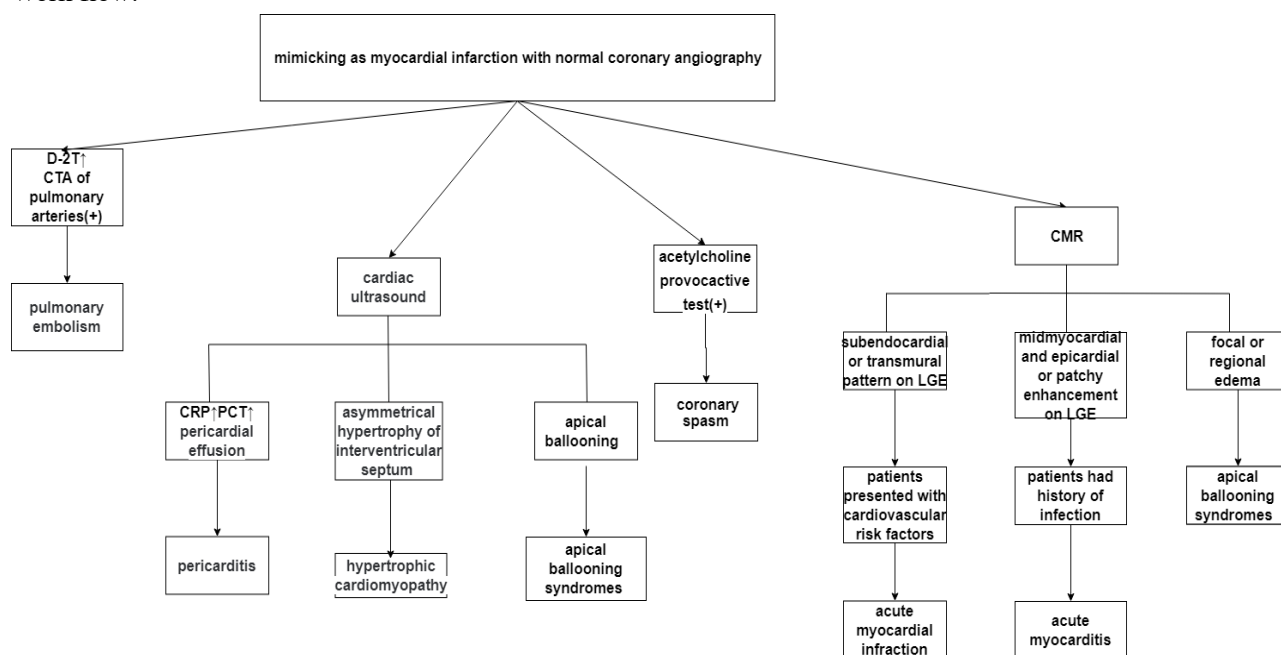
Response: Thank you for your advice; we will add a workflow in the supplementary material. We have described the reason for delaying CAG for 5 days at our revision manuscript (Line

274- Line 279 in the revised version).

The patient's initial presentation suggested acute myocardial infarction. We recommended coronary angiography (CAG) for several times within 72 hours after the patient admitted to the hospital. The patient felt that the chest pain was alleviated and there was no hemodynamic disorder, so he refused CAG. Upon our repeated recommendation, the patient agreed to undergo CAG 5 days after admission.

Special thanks to you for your good comments.

Work flow:



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. And we mark the changes with yellow highlight in revised paper.

We appreciate for Editors and Reviewers' warm work earnestly, and hope that the correction will meet with approval.

Once again, thank you very much for your comments and suggestions.

Thank you and best regards.

Yours sincerely,

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