



# Myopericarditis as an Early Manifestation of Acute Rheumatoid Arthritis

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## Introduction

- Rheumatoid Arthritis (RA) is a systemic inflammatory disorder.
- Extraarticular manifestations are common, affecting up to 50% of patients with RA.
- Cardiovascular manifestations of RA include pericarditis, myocarditis, cardiomyopathy, accelerated atherosclerosis, valvular dysfunction, and arrhythmias.
- It is rare for extraarticular manifestations to be the initial presentation of RA. We report a case of RA that presented initially as acute decompensated heart failure.

## Case Presentation

- A 35-year-old male with presented with dyspnea, pedal edema, orthopnea going on for a month duration. He had no prior medical history. He denied any preceding fever, cough, sore throat, myalgias, headaches or rhinorrhea. Patient reported occasional alcohol use for the past year.

### Initial physical examination:

- Respiratory distress, bibasilar rales, S3, Grade III/V systolic murmur best heard in the mitral area, jugular venous distension, 3+ pitting edema of bilateral lower extremities.

### Initial Investigations:

- BNP 2900 pg/ml, UDS positive for alcohol, HbA1C 7.1%
- ECG: Normal sinus rhythm with occasional PVCs.
- Echocardiography: Dilated cardiomyopathy, ejection fraction of 10-20%, and moderate mitral regurgitation.

### Hospital Course:

- Intravenous diuresis was initiated. After volume status was optimization, the patient was started on guideline-directed heart failure therapy.
- Coronary Angiogram: Normal Coronary Arteries
- Cardiac magnetic resonance imaging (MRI): Myopericarditis, mid-wall late gadolinium enhancement of interventricular septum and anterior wall of the left ventricle.

## Decision Making

- Given the lack of preceding viral symptoms, and features suggesting myopericarditis on MRI it was decided to work up for possible autoimmune etiology.
- Autoimmune workup: rheumatoid factor 531 U/ml, anti-cyclic citrullinated peptide high positive, anti-nuclear antigen titers of 1:360 (nuclear homogenous).
- Patient denied any joint symptoms prior to presentation.

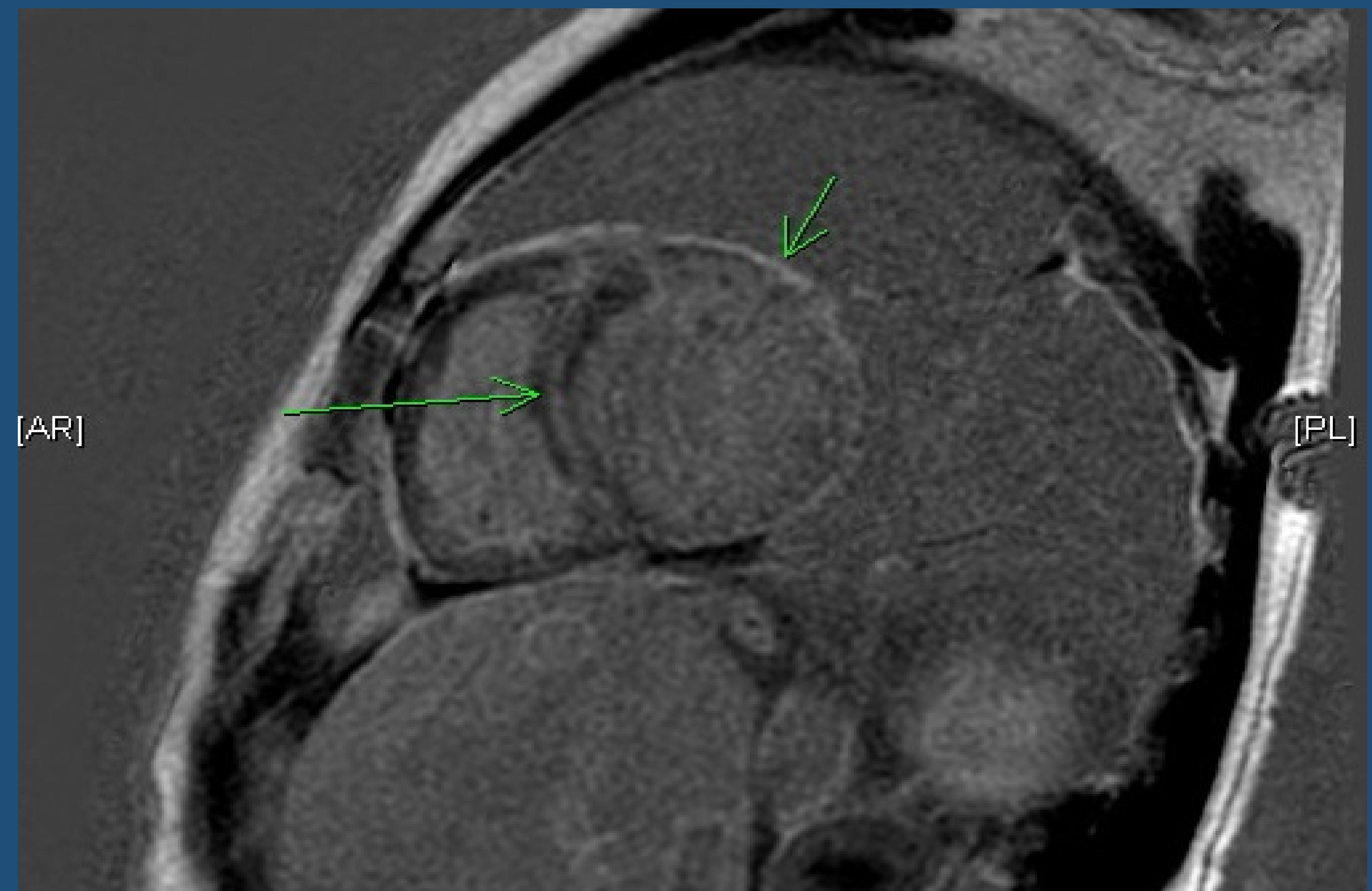


Figure 1. Late gadolinium enhancement of interventricular septum (large arrow) and pericardium (small arrow) seen on Cardiac MRI.

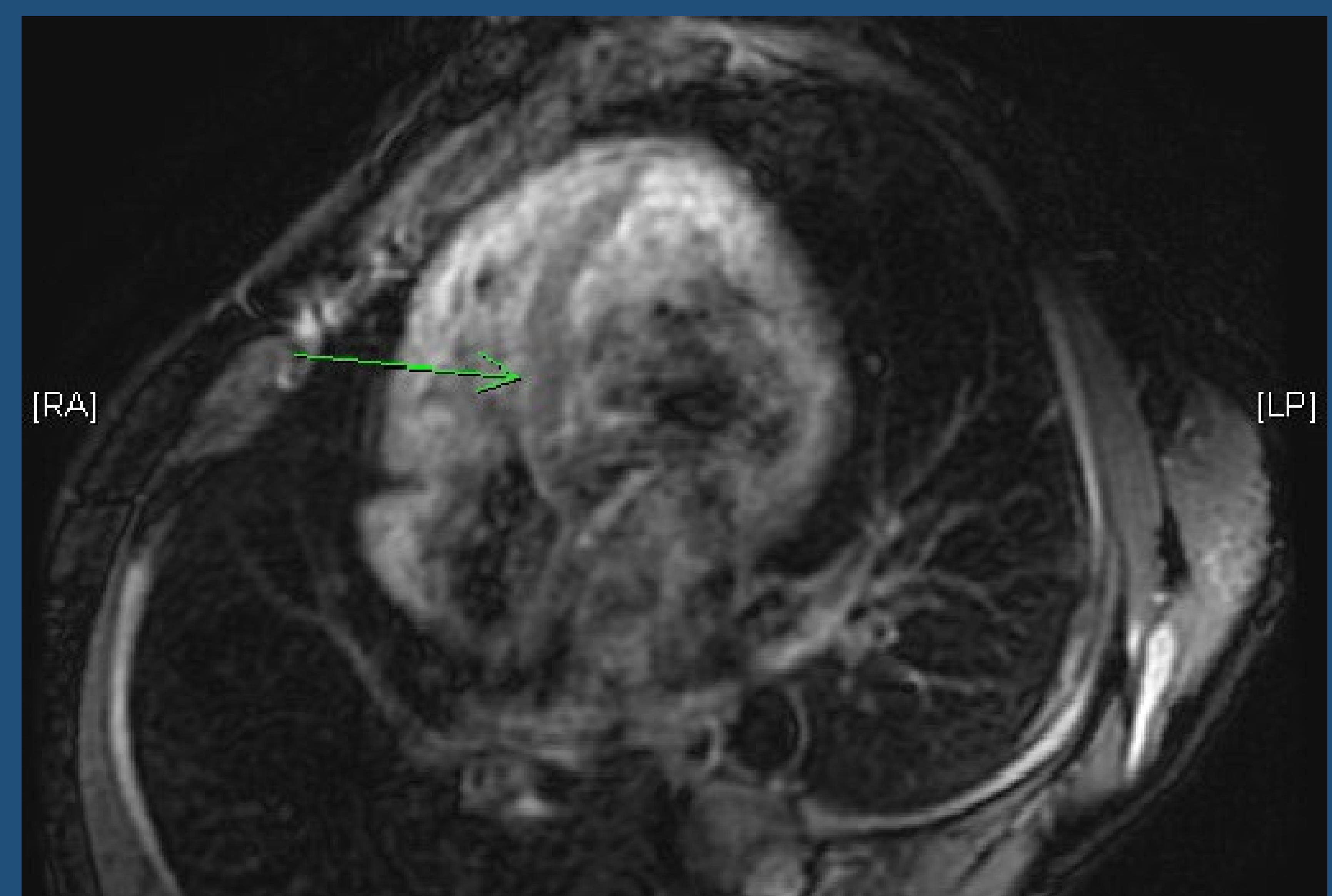


Figure 2. Hyperintensity of septum (arrow) in comparison to adjacent myocardium, indicating myocardial edema.

## Decision Making (Cont.)

- At an outpatient follow-up at 4 weeks post-discharge patient reported arthralgias, recurrent swelling of the small joints of hands and feet, wrists, and ankles; morning stiffness lasting more than 1 hour. Symptoms started 2 weeks after discharge.
- European league against rheumatism/ American college of rheumatology criteria score of 9, diagnosis of rheumatoid arthritis was made, and he was referred to rheumatology for further management of RA.

## Discussion

- Up to 30% of patients with RA have myocardial involvement on postmortem evaluation. Histologic findings include focal non-specific, diffuse necrotizing and granulomatous myocarditis.
- Although cardiac involvement in rheumatoid arthritis is common it is rare for cardiac manifestations to be the initial presentation. Cases have been reported in the past with myopericarditis and pericarditis as initial presentation of rheumatoid arthritis.
- To our knowledge, this is the first reported case of myocarditis related acute decompensated heart failure as the initial presentation of rheumatoid arthritis.

## Conclusion

- RA along with other autoimmune diseases are an important yet underdiagnosed etiology of cardiomyopathy.
- Early diagnosis and prompt treatment can help change prognosis in this patient population.
- This case highlights the diagnostic significance of cardiac MRI in patients with non-ischemic cardiomyopathies.

## References

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