

Acute Rheumatic Myopericarditis: A Dying Disease in Western Society

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Background

- Acute rheumatic fever is an inflammatory response to a group A streptococcal infection, affecting approximately 500,000 people yearly.¹
- The global burden of ARF remains high and is mainly seen in children aged 5 to 15 years.²
- However, it's incidence in America and Western Europe has dwindled over the years (<10/100,000 per year).³

Case Description

- A 21-year-old female, recently treated for *Streptococcal* pharyngitis, presented with atypical chest pain, dyspnea and fevers.
- She had an elevated CRP (270 mg/L), high-sensitivity troponin T (1660 ng/L), and MB (74.7ng/mL). T-wave inversions with PR depressions were noted on ECG.
- A cardiac MRI was also obtained (Figure 1) and revealed subepicardial enhancement - findings consistent with acute myopericarditis.
- She was diagnosed with acute rheumatic fever and started on treatment with intramuscular penicillin, colchicine and metoprolol prior to discharge.

Discussion

- Prompt recognition of ARF is critical, because it is necessary to initiate early treatment in order to prevent long-term complications of congenital rheumatic disease.⁴
- The modified Jones criteria requires a confirmed streptococcal infection with 2 major manifestations, or 1 major and 2 minor manifestations, to make an initial diagnosis.⁵
- Carditis due to ARF most commonly affects the mitral valve, followed by the aortic valve.⁶
- Echocardiography is the diagnostic modality of choice when evaluating rheumatic carditis and can help determine if valvular surgery is indicated. Serial echocardiograms should be obtained since 50-65% of patients can develop carditis.⁷
- Treatment of ARF is supportive and directed towards symptomatic relief. Antibiotic therapy should be started with oral penicillin for 10 days, followed by secondary prophylaxis with intramuscular penicillin for 10 years to improve long term cardiac outcomes.⁸
- While many patients with mild to moderate rheumatic carditis tend to recover, those with severe carditis are at high risk to develop severe chronic rheumatic heart disease, and subsequently, increased risk for heart failure, endocarditis, arrhythmias, stroke, and death.⁹

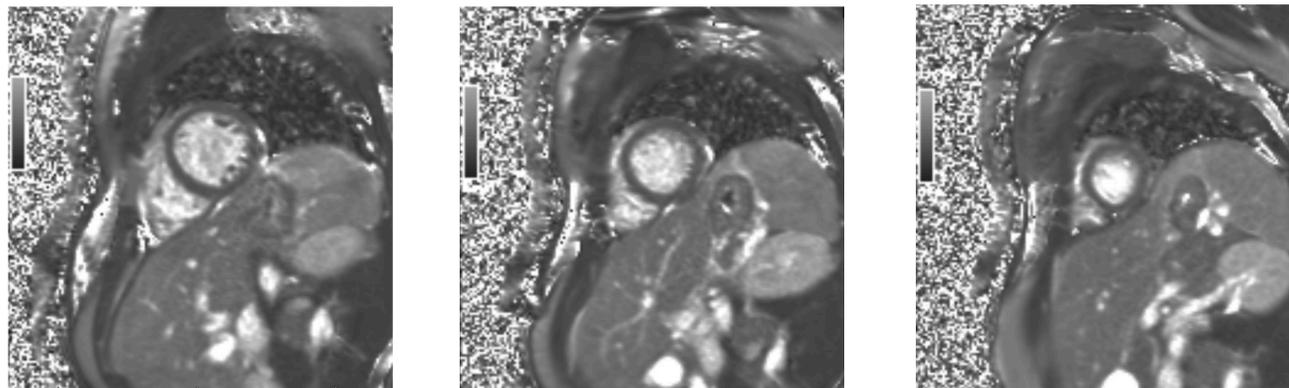


Figure 1a-c. Cardiac MRI findings of borderline reduced left ventricular systolic function. On native parametric mapping T2 is elevated 54- 60 ms suggestive of myocardial edema. Atypical subepicardial enhancement noted in lateral and inferior segment(s) on late gadolinium enhanced imaging. These finding are consistent with acute myopericarditis.

Conclusion

Acute rheumatic fever is an inflammatory process that can lead to carditis and life threatening long-term cardiac complications due to rheumatic heart disease.

Prompt differentiation between ARF and non-rheumatic carditis can prevent long term complications and avoid the need for prolonged screening and antibiotic prophylaxis.

This case highlights an uncommon case and reviews diagnostic criteria, treatment, and screening for an atypical disease that is rarely seen in western society.

References

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