

Case Report

A PECULIAR CASE OF ADULT ONSET ACUTE RHEUMATIC FEVER

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Abstract

We report a case of a 32-year-old female presenting with a first episode of acute rheumatic fever (ARF). Acute rheumatic fever is more commonly seen in children and adolescents, making this adult case, particularly a first episode, noteworthy. This report aims to contribute valuable information to the medical literature due to the atypical age of presentation.

INTRODUCTION

Acute rheumatic fever, especially the first episode, is commonly seen in children and adolescents. Few cases have been reported in adults in various countries. A case report by Chang Reen Wang et al. in China described six females aged 26 to 42 years. Another case report by Eliot Berry et al. in Jerusalem in 1986 included 23 patients with an average age of 55 years.^[1] In developing countries, upper respiratory tract infections are often treated symptomatically in adults, potentially leading to underdiagnosis of ARF. This case underscores the importance of calculating the Centor score and performing throat swabs to identify Group A streptococcal infections. ARF is a multisystem disease resulting from an autoimmune reaction to infection with Group A Streptococcus. While many manifestations resolve completely, cardiac valvular damage (rheumatic heart disease [RHD]) may persist.^[2]

Although ARF is predominantly a pediatric ailment, adult onset typically suggests a recurrence from childhood. Despite a declining prevalence in developed countries, sporadic outbreaks still occur in adults. A primary episode of ARF in an adult without prior history poses a diagnostic challenge.^[3]

CASE DESCRIPTION

A 32-year-old female presented with migratory polyarthritis for four weeks. She initially developed pain and swelling in her left knee, which resolved before similar symptoms appeared on the right side. The arthritis then affected her ankle, right elbow, and

shoulder joint sequentially. She had a history of fever and sore throat one month prior, in August 2023, raising the possibility of ARF.

Investigations

Table 1: Patient's Laboratory Findings

Parameter	Value	Normal Range
Total Leukocyte Count (TLC)	13,800	4,000-11,000 / μ L
Erythrocyte Sedimentation Rate (ESR)	110 mm/hr	0-20 mm/hr
C-Reactive Protein (CRP)	52.8 mg/L	<3 mg/L
Antistreptolysin O (ASO) titer	752 IU/mL	<200 IU/mL
ANA, RA Factor, Anti-CCP	Negative	Negative
Liver Function Tests (LFT)	WNL	WNL
Blood culture	No growth	No growth
2D Echocardiography	Carditis	No abnormalities

Differential Diagnosis

Initially, ARF was considered the primary differential diagnosis. Other causes of migratory polyarthritis were also considered:

- Systemic Lupus Erythematosus (SLE): No features such as alopecia, serositis, lymphopenia, thrombocytopenia, or rash; ANA negative; SLICC score 1.
- Hepatitis B: No features of chronic hepatitis; LFT normal; HBsAg and HCV negative.
- Lyme Disease: No characteristic skin rash, hepatosplenomegaly, or lymphadenopathy.

- Syphilis: No vaginal discharge or genital ulcer; VDRL test negative.

After excluding other common causes at this age, a diagnosis of ARF was established based on clinical and laboratory findings.

Diagnosis

Using the Modified Jones Criteria:

Major Criteria:

- Carditis: Evidence of mitral and aortic regurgitation on ECHO
- Migratory polyarthritis

Minor Criteria:

- High-grade fever (38.3°C)
- Raised CRP and ESR
- Elevated ASO titer (752 IU/mL)

Treatment and Outcome

The patient showed remarkable clinical improvement after starting NSAID Etoricoxib. CRP and ESR levels also decreased significantly.

DISCUSSION

ARF is typically associated with molecular mimicry, where the immune response targets streptococcal antigens. This case emphasizes the need to use the Centor score and throat swab culture for diagnosing

upper respiratory tract infections promptly, potentially preventing ARF development. Considering ARF in adults with migratory polyarthritis is crucial.^[3,4]

CONCLUSION

While ARF in adults is rare, it can occur, as evidenced by this case. Vigilance in managing upper respiratory tract infections, particularly Group A streptococcus, is essential. All causes of arthritis should be meticulously evaluated.

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