

Enthesitis Related Arthritis (ERA) in an Adolescent Female: Navigating the Diagnostic Dilemma of Juvenile Spondyloarthropathies

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Abstract: *Enthesitis-Related Arthritis (ERA) is a subtype of juvenile idiopathic arthritis (JIA) characterized by inflammation at the entheses. This case report discusses a 17-year-old female who presented with a two-week history of fever and bilateral hip pain. Despite initial suspicion of septic or tuberculous arthritis, positive HLA-B27 markers and MRI findings led to a diagnosis of ERA. The patient showed significant improvement following a regimen of Naproxen and Methotrexate. This case highlights the challenges of diagnosing adolescent spondyloarthritis in settings where infectious mimics are prevalent^[1-4].*

Keywords: Enthesitis-related arthritis; Juvenile idiopathic arthritis; Juvenile spondyloarthritis; HLA-B27 positivity; Adolescent inflammatory arthritis; Magnetic resonance imaging

1. Introduction

Enthesitis-Related Arthritis (ERA) is a distinct category of juvenile idiopathic arthritis defined by inflammation at tendon, ligament, or joint capsule insertion sites. It typically presents between 6 and 16 years of age and shares clinical and genetic features with spondyloarthropathies such as ankylosing spondylitis and reactive arthritis. Early identification is essential to prevent irreversible joint damage and axial disease progression [2, 4-7].

2. Case Presentation

A 17-year-old girl presented with high-grade fever for two weeks associated with chills and rigors, along with bilateral hip pain and difficulty walking. She had a two-year history of intermittent joint swelling beginning in the right knee, later involving the left hip and knee.

2.1 Laboratory Investigations

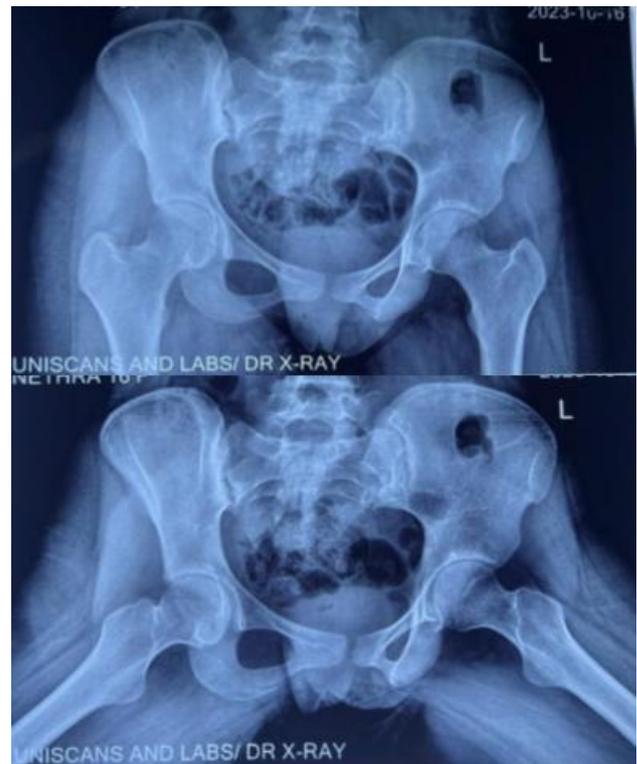
Initial laboratory evaluation demonstrated anemia and marked inflammatory activity. HLA-B27 was positive. Mantoux testing was reactive, while blood cultures and IGRA were negative.

Parameter	Result	Interpretation
Hemoglobin	9.7 g/dL	Anemia
Total Leucocyte Count	14,090 cells/mm ³	Leukocytosis
ESR	120 mm/hr	Markedly elevated
CRP	88.3 mg/L	Elevated
Vitamin D	3.5 ng/ml	Deficiency
Serum Iron	<10 µg/dl	Low
HLA-B27	Positive	Associated with ERA
RA Factor / Anti-CCP	Negative	Excludes RA

2.2 Imaging and Joint Aspiration

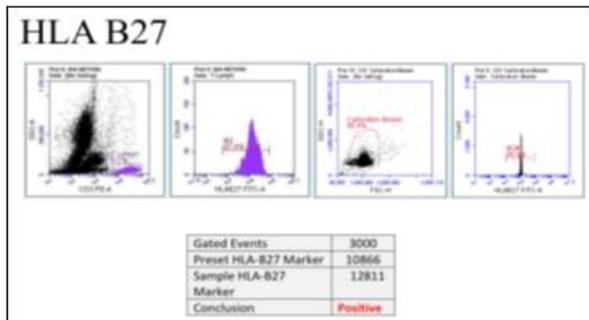
MRI revealed bilateral hip joint effusions. Ultrasound-guided knee aspiration showed inflammatory synovial fluid.

Parameter	Result
Total cell count	30,000 cells/cumm
Glucose	32 mg/dl
Protein	4.8 g/dl
ADA	64.21 IU/L
CBNAAT	Negative





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3. Management and Outcome

The patient was diagnosed with ERA and treated with Naproxen, weekly Methotrexate (10 mg), and folic acid. She demonstrated marked clinical improvement with resolution of fever and reduced joint symptoms [4, 6].

4. Discussion

Juvenile idiopathic arthritis comprises multiple inflammatory arthropathies presenting before age 16. ERA frequently mimics septic or tuberculous arthritis, leading to diagnostic delays. Negative microbiological studies alongside imaging and genetic markers supported a non-infectious inflammatory etiology in this case. MRI is particularly valuable for early detection. NSAIDs and DMARDs remain the cornerstone of therapy to prevent long-term disability [3- 8].

5. Conclusion

Fever with arthritis in adolescents demands broad differential consideration including infection, malignancy, and inflammatory disease. Careful clinical evaluation and targeted investigations are essential. Favorable therapeutic response further supported the diagnosis of ERA.

References

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