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Case Report

A case report on sero-negative juvenile idiopathic arthritis progressing to polyarthritis

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ABSTRACT

A group of inflammatory arthritic disorders known as juvenile idiopathic arthritis (JIA) are characterized by arthritis of uncertain origin that first manifests in a child under the age of 16. This is the most common chronic rheumatological disease of childhood. The JIA is present in every country and has an incidence of 1 in 100,000. Despite the absence of a documented etiology, there are a number of genetic and environmental risk factors as well as immunologic abnormalities that can be seen and used to infer information about the pathophysiology of the illness. Although there is no cure, modern therapy can frequently reduce the underlying inflammation and enhance function and symptoms. In this case patient showed complete resolution of symptoms with no signs of recurrence. As a result, it helps patient to live a healthy life.

1. Introduction

The most prevalent chronic rheumatic condition in children, juvenile idiopathic arthritis (JIA), has an unclear cause. Estimating that 20% of JIA populations have Polyarthritis, approximately 85% of the polyarthritis populations have Rheumatoid Factor (RF)- Negative.[1,2] Annual incidence & prevalence for RF negative polyarthritis can be estimated as 1 to 4 per 100,000 and 21 to 37 per 100,000 respectively.[3] RF negative Polyarthritis girls are affected 4 times more frequently than the boys.[4] JIA includes a number of distinct subgroups and typically manifests as peripheral arthritis. There are many different clinical states on the illness spectrum. It has been demonstrated that both endogenous and external antigens with heightened inflammatory responses are crucial in the pathophysiology of the illness. The patient's daily activities and productivity are restricted by chronic inflammation. In order to be diagnosed with JIA, a patient must have the disease's inception before the age of 16 years where there is biphasic peak of onset, one at 1-4 years & other at later childhood & adolescence and have arthritis that has persisted for more than six weeks.[4–6] Juvenile rheumatoid arthritis (JRA) and juvenile chronic arthritis (JCA) are other names that have been used for the same clinical entity.[7] There is symmetric involvement of joints.

2. Case Report

2.1. History

17 Years/Female patient presented at our OPD with complaints of:-

1. Multiple joint pain since 1.5 years
2. Patient could not able to mobilize on her own on presentation
3. There is history of exacerbation
4. Fever On & Off

(a) She is 2^{nd} Born Child

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(b) There is no history of similar illness in any of her family members or 1^{st} & 2^{nd} degree relatives.

2.2. *Physical & clinical examination*

1. Diffuse swelling present over Bilateral Wrists, Knee & Ankle
2. On Examination of Bilateral Hip :

Fixed Flexion Deformity (FFD) of 20 degrees & Fixed Abduction Deformity of 15 degrees present on Right Hip

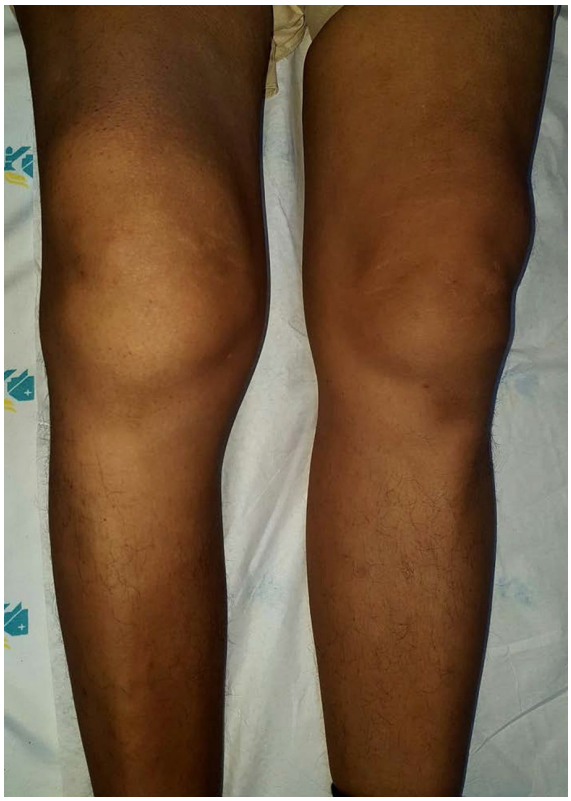

Fig. 1:

2.3. *Management*

2.3.1. *Blood investigations*

1. Complete Blood Count (CBC) - Normal
2. C-Reactive Protein (CRP) - Negative
3. Erythrocyte Sedimentation Rate - 70 mm AEFH (Raised)
4. RA Factor – Negative
5. Anti-cyclic citrullinated peptide (Anti-CCP) – Negative
6. Anti Nuclear Antibody (ANA) – Negative

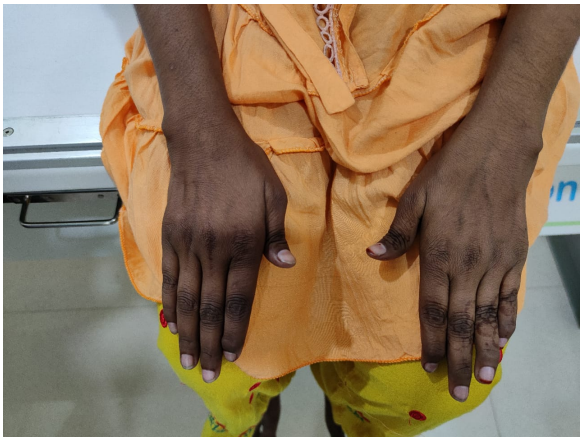

Fig. 2:

2.3.2. *Roentgenographic examination*

1. On Xray of Hand :- Soft tissue swelling, osteopenia, Loss of articular cartilage & destructive changes in the distal & proximal interphalangeal (i.e. DIP & PIP) joints and metacarpophalangeal (MCP) joints (Figure 3)
2. On Xray of Wrist:- Erosions at the radial articular surface & metacarpal bases with crenated margins with destruction and fusion of carpal bones in the wrist (Figure 3)
3. On Xray of Cervical Spine:- Ankylosis, Loss of normal cervical lordosis, Narrowing & erosion of neural arch joints (Figure 4)
4. On Xray of Bilateral Hip with Pelvis:- Uniform joint space narrowing with Destruction of femoral head & acetabula, fusion of Sacro-Iliac joint (Figure 5)
5. On Xray of Bilateral Knee Joint:- Soft tissue swelling , Osteopenia , Joint space narrowing (Figure 6)

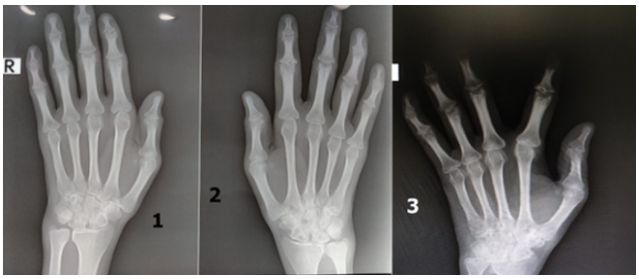

Fig. 3: 1,2,Radiographs at onset**, 3** Radiographs after 6 month

2.4. *Treatment*

1. Non- Steroidal Anti-inflammatory Drugs:[8,9]
   (a) Tab. Naproxen 250 mg: 1 tab twice daily after food * 5days & then SOS in case of pain.

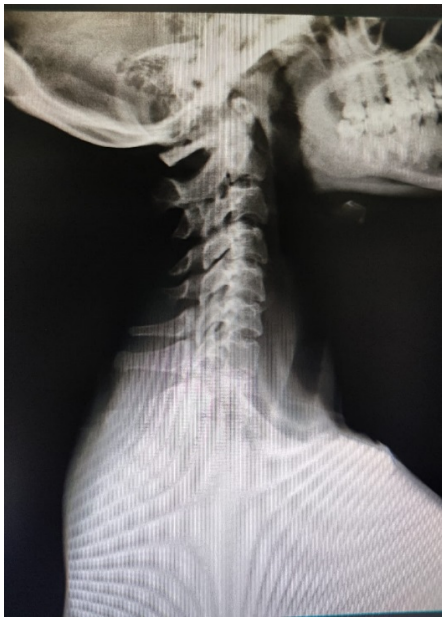

Fig. 4:

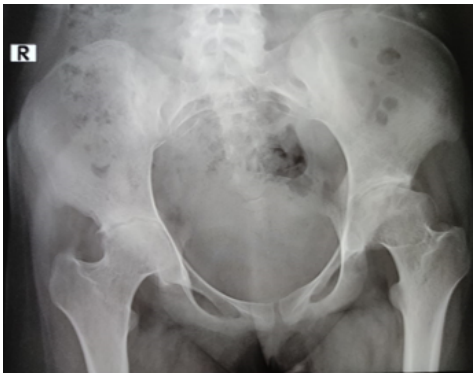

Fig. 5:

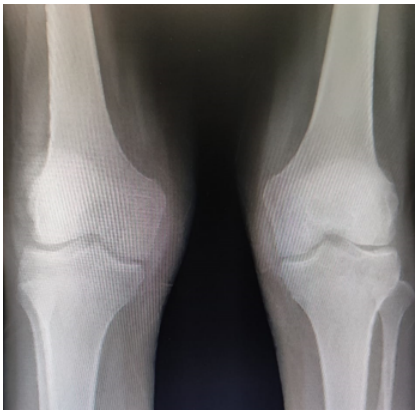

Fig. 6:

2. Disease - Modifying Anti-Rheumatic Drugs (DMARDs)**:** [9–11]

   (a) Tab. Methotrexate 15 mg: 1 tab once weekly after food.

   (b) Tab. Sulfasalazine: Initially 1 tab (500 mg) twice daily after food * 7 days.
   Then Maintenance on 1 tab (1000 mg) twice daily after food * Continued

3. Tab. Folic Acid 5 mg: 1 tab once daily except on the day of taking Methotrexate.[8,10]
4. Tab. Deflazacort 6mg:[8,9,12]
   1 tab (12mg) once daily after food * 4 months
   Then, 1 tab (6mg) once daily after food * 4 months
   Then, 1 tab (6mg) on alternative day after food * 4 months & then STOP.
   * Before starting DMARD therapy, LFT, KFT, CXR (PAV), Virology were done.
   * After every 12 weeks of above treatment LFT, KFT are being repeated to monitor the side-effects of DMARDs.

2.5. Follow – Up

The patient is reviewed at 4 weeks interval to know the disease progression. On Follow-up at 4 weeks, there is decreased ESR (40 mm AEFH), CRP Negative. The symptoms has subsided than before. The patient is also reviewed on every 12 weeks intervals to rule out progression to Sero positive adult Rheumatoid arthritis factor. The patient is also being monitored for the adverse effects of the drugs causing hepatic & renal impairment because of DMARDs.

3. Conclusion

The importance of early recognition of clinical features in the diagnosis allows correct treatment, planning & reduces the chance of disease progression & complications in future, thus ensuring a better quality of life to the patient. It allows aggressive treatment to prevent irreversible joint damage. As a result, it helps patient to live a healthy life.

4. Conflict of Interest

None.

5. Source of Funding

None.

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