



ADULT ONSET STILL'S DISEASE PRESENTING AS PYREXIA OF UNKNOWN ORIGIN

Medicine

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ABSTRACT

Adult onset Still's disease (AOSD) is a rare inflammatory disease characterized by fever, arthralgia, rash, sore throat, lymphadenopathy, hepatomegaly and/or splenomegaly. It is a rare cause of pyrexia of unknown origin (PUO) and should be considered once the more common infectious, rheumatological and malignant causes have been excluded. This is usually a diagnosis of exclusion. Yamaguchi criteria can be used for diagnosis. Patients of AOSD show an excellent response to Non-steroidal anti-inflammatory drugs (NSAIDs), however some may not have a sustained effect, in which case glucocorticoids have to be considered. Here's a case of a young male patient who was evaluated for the cause of pyrexia of unknown origin.

KEYWORDS

INTRODUCTION

Adult onset Still's disease is an inflammatory disorder characterized by quotidian (daily) fevers, arthritis and an evanescent rash. Annual incidence of the disease is 0.16 cases per 100,000 people with an equal distribution in both sexes. It can be considered as a cause of pyrexia of unknown origin (PUO) after excluding the more common infectious and malignant etiologies.

First described in children by George Still in 1896, "Still's disease" has become the eponymous term for systemic juvenile idiopathic arthritis. In 1971, the term "adult onset Still's disease (AOSD)" was used to describe a series of adult patients who had features similar to the children with systemic juvenile idiopathic arthritis and did not fulfill criteria for classic rheumatoid arthritis (RA). Both genetic factors and a variety of infectious triggers are known to play a role in the etiology of the disease. Yamaguchi criteria can be used for diagnosis. It requires the presence of five features, with at least two being major diagnostic criteria. In addition, the presence of any infection, malignancy or other rheumatic disorder known to mimic AOSD in its clinical features precludes the diagnosis of AOSD.

Major criteria	- Fever $>39^{\circ}\text{C}$, lasting 1 week or longer - Arthralgia or arthritis, lasting 2 weeks or longer - Typical rash - Leukocytosis $>10,000/\text{mm}^3$ with $>80\%$ polymorphonuclear cells
Minor criteria	- Sore throat - Recent development of significant lymphadenopathy - Hepatomegaly or splenomegaly - Abnormal liver function tests - Negative tests for antinuclear antibody and rheumatoid factor (IgM)
Exclusion criteria	- Infections - Malignancies - Other rheumatic diseases
Five or more criteria are required with 2 or more being major criteria for diagnosis of AOSD	

Abbreviations: AOSD, adult-onset Still's disease; IgM, immunoglobulin M.

CASE REPORT

A 17 years old, moderately built and nourished male patient, residing in Bihar, India presented with chief complains of fever with spikes of $>102^{\circ}\text{F}$ almost daily for 3 weeks. It was associated with itchy rash over trunk and generalised body ache. He had history of similar febrile illness four to five times in the past eight to ten months which relieved with Non-steroidal anti-inflammatory drugs (NSAIDs) temporarily to produce a relapse later. He had lost 5 to 6 kilograms weight in the preceding six months. He gave history of cattle exposure in his

hometown. On examination, salmon coloured rash was seen over trunk, his axillary and inguinal lymph nodes were palpable but liver and spleen were impalpable. His blood investigations revealed low Hb (10.6g/dl), leucocytosis ($\text{WBC} = 16,500/\text{mm}^3$ with 88% neutrophils, 7% lymphocytes), thrombocytosis (platelet count- $4.6\text{ lakhs}/\text{mm}^3$), normal bilirubin levels, slightly elevated aminotransferase (SGPT 84, SGOT 78), elevated Lactate dehydrogenase (687mg/dl) and normal renal function tests. His Erythrocyte sedimentation rate (ESR), C reactive protein (CRP) and ferritin were raised, Rheumatoid Arthritis factor (RA) was negative. Investigations to rule out common causes of fever in an endemic country like India which include Dengue IgM, Dengue IgG, Chikungunya IgM, peripheral smear for malarial parasite, Widal test, Urinalysis, Chest X Ray, USG abdomen were performed. All these tests were normal. Tuberculin skin test (TST) and interferon gamma release assay (IGRA) were negative. Ultrasound (USG) guided lymph node biopsy was taken from inguinal lymph nodes which didn't reveal any significant abnormality. Serologic testing for hepatitis B, hepatitis C, Human immunodeficiency virus (HIV), Brucella, Rickettsia, Coxiella were negative and serial blood and urine cultures didn't show growth of any organism, ruling out infectious etiology.

His Anti-nuclear Antibody (ANA) was Grade 1 positive, cANCA (anti neutrophil cytoplasmic antibody) and pANCA (peri-nuclear anti neutrophil cytoplasmic antibody) were negative. Bone marrow biopsy was normal, excluding hematological malignancy as the cause of PUO. Contrast enhanced Computed Tomography (CECT) of abdomen, pelvis and thorax didn't show any significant abnormality, except the enlarged lymph nodes seen on USG.

A provisional diagnosis of adult onset Still's disease was made and the patient was started on glucocorticoids at a dose of 1mg/kg/day . His fever and bodyache subsided gradually, leucocytosis resolved, inflammatory markers started decreasing and he was discharged after a symptom free period of two weeks with tapering doses of steroid.

At 6 month follow up, patient did not have any relapse, his anemia was improving, total count were normal and inflammatory markers within normal limits.

DISCUSSION/CONCLUSION

The annual incidence of adult onset Still's disease is 0.16 cases per 100,000 people, with an equal distribution between the sexes. There is a bimodal age distribution, with one peak between the ages of 15 and 25 and the second between the ages of 36 and 46. The major clinical features include fever, rash and arthritis or arthralgia. If the fever is long lasting and investigated as pyrexia of unknown origin, infectious

and malignant causes must be ruled out. It is usually a diagnosis of exclusion and all possible differentials should be considered. The above patient presented with PUO and responded to NSAIDs initially but continued having relapses, indicating the need to start glucocorticoid therapy. With glucocorticoids, he experienced dramatic symptomatic relief, improvement in the laboratory parameters and has not suffered a relapse since.

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Nil.

CONFLICT OF INTEREST

There are no conflicts of interest.

REFERENCES

1. Harrison's principal of Internal Medicine, 20th edition
2. Manual of Rheumatology by Ved Chaturvedi, 5th edition
3. UpToDate Inc.