

CASE REPORT

Persistent pruritic skin rashes masquerading sulfasalazine sensitivity in a newly diagnosed Adult-Onset Still's Disease (AOSD)

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ABSTRACT

Adult-Onset Still's Disease (AOSD) is a rare clinical entity with unknown etiology characterized by arthritis, fever, evanescent rash and other systemic presentations. This report describes a 30-year-old woman presented first with classic picture of rheumatoid arthritis since six years ago on oral prednisolone, sulfasalazine and methotrexate and was recently admitted with refractory sore throat, fever, arthritis, persistent pruritic rash and leukocytosis. Adverse drug reactions to sulfasalazine was the working clinical diagnosis. Discontinuation of sulfasalazine did not show any clinical benefit. The patient responded fully to combine pulsed methylprednisolone and higher doses of oral prednisolone and systemic disease-modifying anti-rheumatic drugs.

Key words: adult-onset Still's disease, persistent pruritic rash, dermatographism, rheumatoid arthritis, dermatographism.

INTRODUCTION

Adult-Onset Still's Disease (AOSD) is a rather rare systemic inflammatory disorder characterized by fever, cutaneous eruption and arthralgia or arthritis. Sore throat, lymphadenopathy, hepatomegaly, splenomegaly, elevation of serum ferritin and leukocytosis are seen in absence of rheumatoid factor and antinuclear antibodies.^{1,2}

The first definition of AOSD in adult patient with signs and symptoms of this, was reported in 1896. Then in 1897 George Still described it in 22 patients with similar presentation, and used the term AOSD.³

Genetic factors and various infectious agents have been postulated as possible predisposing factors. In a series of 62 patients, an association between Human Leukocytes Antigen (HLA) and AOSD was reported.⁴

Differential diagnoses of AOSD are wide and include infectious, neoplastic, and other collagen vascular disorders namely systemic lupus erythematosus, which should be ruled out before diagnosing AOSD.³ Classic cutaneous manifestations are transient salmon-colored maculopapular patches without itching or minimally pruritic. Dermographism and intensely pruritic and erythematous papules/plaques are reported frequently.^{1,5}

Sulfasalazine (SSZ) is a frequently used agent in treatment of rheumatoid arthritis (RA) with cutaneous reactions as a common adverse reaction, however, these demonstrations are easily differentiated from typical skin rashes in AOSD in most cases.

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We reported here a case of AOSD rash that was subject to a misdiagnosis of sulfasalazine hypersensitivity.

CASE REPORT

We report a 30-year-old woman; a known case of chronic rheumatoid arthritis (RA) with recent joint exacerbation and pruritic maculopapular rash involving trunk and extremities. Systemic symptoms including fever, malaise, sweating, sore throat, anorexia, generalized myalgia, headache and arthralgia of shoulders, elbows, wrists, interphalangeal joints, knees and ankles has been developed 10 days before admission. Searching for an occult infection did not show any source. Intense pruritus did not respond to oral hydroxyzine 25 mg three times a day so oral prednisolone increased to 30 mg/day for 5 days.

She has had seronegative RA since 6 years ago and has been treated with low dose oral prednisolone and methotrexate (MTX) 10mg/week and SSZ 1000 mg per day.

On physical examination, she was ill and febrile but not toxic. She looks a little pale but not icteric. Her body temperature was 39°C orally. She had a pulse rate of 100 beats/min and a blood pressure of 115/65 mmHg. Her respiratory rate was 18/min. Her throat was not congested. No lymphadenopathy and hepatosplenomegaly were observed.

There were pruritic maculopapular skin rashes with erythematous background involving the trunk, neck and extremities developing to patches and plaques with typical dermatographism (Fig. 1)

Musculoskeletal examination revealed tenderness on her shoulders, elbows, wrists, interphalangeal joint-

ts, knees and ankles specially her left wrist and left knee with limitation of range of motion and active synovitis. Other physical examinations were within normal limit.



Figure 1, persistent skin rash resembling dermatographism in our patient.

Her lab data showed high titer C-reactive protein (CRP) (95.3mg/dl) and increased erythrocyte sedimentation rate (ESR) (80 mm/h). She had leukocytosis with neutrophilia; anemia, without thrombocytopenia and no evidence of microangiopathic hemolytic anemia. Rheumatoid factor (RF), Anti-nuclear antibody (ANA) and brucellosis tests were all negative. Coagulation profile was normal. Blood and urine cultures were normal and was no evidence of bacterial, fungal or viral infection. Chest radiograph was also normal.

At first, we thought that these new skin lesions are attributable to SSZ hypersensitivity. However holding the drug for a week along with high dose oral antihistamine had no beneficial results.

According to previous history of RA, persistent skin rashes, leukocytosis and no finding of infection and other differential diseases and no responses to SSZ cessation, the diagnosis of AOSD was suggested for this patient.

On admission, the patient received intravenous pulsed methylprednisolone 500 mg and continued with oral prednisolone 20 mg per day.

She responded well and fever, arthritis and itchy lesions got improved, but symptoms recurred when oral corticosteroid was getting tapered. Oral prednisone increased to 30 mg per day and hydroxychloroquine was added.

She was discharged with good general condition on treatment with oral prednisolone 30mg per day then was tapered to 5 mg, cyclosporine 50 mg, hydroxychloroquine 200 mg/day and MTX 10 mg weekly with

good persistent clinical response.

DISCUSSION

Diagnosis of Adult-Onset Still's Disease (AOSD) is usually challenging especially among non-rheumatologists. Although we have useful clues to diagnosis of AOSD such as persistent fever; along with polyarthritis that could be associated with skin rashes, sore throat and leukocytosis. Sore throat is remarkably diagnostic in AOSD that is presented in more than 90-80% of patients. Characteristically sore throat has no sign of local infection or inflammation.

Elevation of liver enzymes, increased acute phase reactants (CRP, ESR) and very high titers of ferritin are useful lab indices of AOSD. Normal or low titer RF and ANA could be seen.

Although the typical rash of AOSD is defined as an erythematous, non-persistent urticarial eruption without itching or minimally pruritic that occurs at night and during febrile episodes, but several atypical types of skin lesions were reported as well.⁶

Atypical rashes that are frequently reported were persistent pruritic maculopapular or papules and plaques, scaly papules, erythematous linear form, urticaria rash and demographic lesions.⁵

Paulo Ricardo Criado in 2011 reported 25 patients of AOSD with urticaria rash and demographic lesions who had a good clinical response to glucocorticoid and antihistamine agents. Dermatographism frequently was an accompaniment phenomenon in patients with AOSD. It could be seen frequently in active disease.⁶

Dermatographism was also reported as a good clinical sign in AOSD by Owlia *et al.* in 2008.³

In our patient, there was pruritic, scaly maculopapular skin rashes with erythematous background converting to patches and plaques. The fixed red scaly lesions with irregular lines were like children's drawings.

AOSD could be considered as RA variant, however, systemic signs and symptoms are severe. SSZ can cause maculopapular skin lesions but she had been given the drug for a long period of time without any skin problem. Although, skin reactions may be seen in any course of treatment, however, persistent lesions even after discontinuation of drug therapy could be due to condition other than drug hypersensitivity.

Ong Ping Seung in 2011 reported one case that was diagnosed and treated as RA who presented with sore throat, fever, arthritis, evanescent rash, raised liver enzymes and hyperferritinemia finally diagnosed as AOSD after the exclusion of other potential differential diagnoses.⁷

CONCLUSION

Diagnosis of AOSD is a tricky one in more instances and needs adequate clinical experience. Atypical skin lesions in AOSD may mimic some drug hypersensitivity.

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