

Fever of unknown origin and leukemoid reaction as initial presentation of Adult-Onset Still's disease

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ABSTRACT

Adult Still's Disease has been reported as cause of Fever of Unknown Origin. Leukocytosis has been described as a common haematological abnormality in Adult Still's Disease. In some rare cases, leukemoid reaction has been reported associated to Still's Disease. We report the case of Adult Still's Disease presenting as Fever of Unknown Origin and leukemoid reaction in a patient with Down Syndrome. The patient needed high dosage of corticosteroids to control the disease and haematological findings.

Keywords: Adult onset Still's disease; Leukemoid reaction; Down syndrome

Adult Still's Disease (ASD) has been reported as cause of Fever of Unknown Origin. Leukocytosis has been described as a common haematological abnormality in Adult Still's disease. 50% of patients from a series of 62 subjects¹ had peripheral leukocyte counts higher than 15,000 leukocytes/mm³ while 37% had white blood cell counts higher than 20,000 leukocytes/mm³. In some rare cases, leukemoid reaction has been associated to ASD². High levels of serum ferritin have been used as diagnostic and disease activity marker. Very high levels between 4,000-30,000 ng/ml are not uncommon³ and even extremely high up to 250,000 ng/ml have been reported⁴.

We describe the case of Adult Still's Disease presenting as Fever of Unknown Origin and leukemoid reaction in a patient with Down Syndrome.

A 44-year-old man was admitted in Internal Medicine with fever up to 40°C for the last eleven days, myalgias, arthralgias and non-productive cough. He had a

history of Down Syndrome without other diseases. On examination, patient had tachypnea (24 bpm) and tachycardia (104 bpm), blood pressure of 111/71 mmHg and temperature of 37.7°C. He had exanthema in trunk and limbs. Heart sounds were rhythmic and chest was clear to auscultation. Abdominal exploration was normal and no edema was found in legs. Chest x-ray showed small right pleural effusion and abdominal ultrasonography showed hepatomegaly with hepatic steatosis.

Laboratory studies at the time of admission revealed: hemoglobin 13 g/dL, white blood cell count 46,000/mm³ (96% neutrophils), platelets 193,000/mm³; aspartate aminotransferase 53 U/liter; alanine aminotransferase 51 U/liter; alkaline phosphatase 108 U/liter; gamma-glutamyl transferase 108 U/liter; total bilirubin 0.32 mg/dl; ferritin 17,204 ng/ml; total proteins 71 g/L; albumin 26 g/L; immunoglobulin G 15.97 g/L; immunoglobulin A 3.66 g/L; immunoglobulin M 1.20 g/L.

Leukemia was considered as a possible diagnosis based on patient's history of Down Syndrome and intense leukocytosis. Blood smear analysis and leukocyte alkaline phosphatase excluded leukemic disease. Atypical pneumonia was considered therefore ceftriaxone and moxifloxacin were prescribed. Atypical pneumonia serology was negative. Chest computerized tomography showed bilateral pleural effusion, larger in right side, with slight pericardial thickening.

One week after admission, patient continued febrile and doxycycline was prescribed instead of ceftriaxone and moxifloxacin as empiric antibiotic therapy for fever of intermediate duration. Atypical pneumonia serology was repeated and parvovirus, hepatitis B, hepatitis C, Epstein-Barr and cytomegalovirus serology was added showing all of them negative results. Patient continued with fever and exanthema but pain and inflammatory signs appeared in his right ankle. Antinuclear antibodies, anti-neutrophil cytoplasmic antibodies and rheumatic factor were negative at this moment with C3 and C4 in normal range. High white blood cell count

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remained at $62,700/\text{mm}^3$ (91% neutrophils).

Adult onset Still's disease diagnosis was considered in this moment and treatment with 100 mg methylprednisolone/day was begun without clinical response. Three bolus of 1.000 mg methylprednisolone/day were intravenously administered and followed by 125 mg methylprednisolone/day until fever and arthritis disappeared. Fever reappeared when dosage of methylprednisolone was reduced so methotrexate was added to treatment.

Patient was discharged with 100 mg prednisone/day in descent dosage pattern, 7.5 mg methotrexate/week and folic acid. In last checkup, patient was asymptomatic and laboratory tests showed: white blood cell count $7,100/\text{mm}^3$ (51% neutrophils); hemoglobin 13.3 g/dL; platelets $246,000/\text{mm}^3$; aspartate aminotransferase 24 U/L; alanine aminotransferase 28 U/L; alkaline phosphatase 42 U/L; gamma-glutamyl transferase 53 U/L; ferritin 298 ng/ml and C-reactive protein 0.3 mg/dL.

Adult onset Still's disease is the autoimmune disease that most frequently cause unknown origin fever in

adults younger than 50 years-old, so we should consider its diagnosis in every patient with fever. Leukocytosis is a major diagnostic criterium of Adult onset Still's disease and in some cases, as ours, has been associated to leukemoid reaction.

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REFERENCES

1. Pouchot J, Sampalis JS, Beaudet F et al. Adult Still's disease: manifestations, disease course and outcome in 62 patients. *Medicine (Baltimore)* 1991; 70: 118-136.
2. Mizock BA, Balamuniswamy G. Adult Still's disease presenting as fever of undetermined origin in patient with leukemoid reaction. *West J Med* 1992; 157: 573-575.
3. Akritidis N, Giannakakis Y, Sakkas L. Very high serum ferritin levels in Adult-Onset Still's Disease. *Br J Rheumatol* 1997; 36: 608-609.
4. Cush JJ. Adult-onset Still's disease. *Bull Rheum Dis* 2000; 49: 1-4.

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