Case Report

PUO: Can it be anti synthetase syndrome

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Abstract

Anti-synthetase syndrome is a set of clinical features with presence of specific anti synthetase antibodies. Presentation varies from patient to patient and symptoms can develop at varying course of the disease. Unexplained fevers with no other set of symptoms can be a presentation, so patients presenting with pyrexia of unknown origin should be evaluated for the presence of anti-synthetase syndrome as early diagnosis is must both for therapeutic and prognostic factors.

Keywords: Syndrome,anti-synthethase

Introduction

Anti-synthetase syndrome is an autoimmune condition characterised by clinical features of myositis, interstitial lung disease, Raynaud's phenomenon, mechanics hands, unexplained fever, weight loss and presence of specific group of autoantibodies referred to as anti-synthetase antibodies.Due to rarity of this disease,the diagnosis is usually missed by clinicians. Early diagnosis is essential for early treatment of the disease to avoid the development of further complications particularly the interstitial lung disease which is responsible for maximum mortality and morbidity in these patients.Here, we present a patient with unexplained fever who was later diagnosed with anti-synthetase syndrome based on specific antibodies and is being followed for development of any complications.

Case Presentation

34-year-old female patient presented with chief complaints of fever for 2 years. Fever was low grade, documented to be 99 .2 F to 99.5 F, associated with chills and body aches and more so in the evening. Associated history of weight loss and loss of appetite was present.Fever used to be relieved with medication only to recur. No history of contact with case of tuberculosis was present. Associated history of joint pains was present, both large as well as well as small joint involvement was present. Joint pain was not associated with any swelling of the joints or early morning stiffness. No history of photosensitivity, malar rash, oropharyngeal ulcers, Raynaud's phenomenon, and hair loss was present. No history of altered bowel habits, burning micturition and chest pain, shortness of breath, cough expectoration was present. Patient was non hypertensive and non-diabetic. Patient had been evaluated outside and had been treated as enteric fever with antibiotics and antipyretics but with no response to treatment.At presentation, patient was febrile with temperature of 99 F, blood pressure of 110/70 mmHg and pulse rate of 80 per minute. Examination did not reveal the presence of lymphadenopathy, clubbing, cyanosis, or jaundice. Patient was investigated for fever profile.

The investigations revealed total leucocyte count of 4300, haemoglobin 10.0gm/dl and normal platelet count of 2 lakh. Liver function tests and renal function tests were in normal range. Fever profile for enteric fever, malaria and dengue were negative. CXR and ultrasound abdomen was normal.ESR was raised (150mm/hr), Rheumatoid factor was positive with quantitative value of 8.60(<0.8) with ANTI CCP being negative (<8.0). Thyroid profile was normal. ANA was positive (420.67). ANA complete profile revealed Ro 60+++, Ro 52+++ and Jo1 ++. Keeping in view the presence of fever, arthralgias and positive antibodies, patient was diagnosed with Anti Synthetase syndrome. For further evaluation of the patient, HRCT thorax and pulmonary function tests were done which were normal. Patient was started on treatment in the form of steroids along with immunosuppressive therapyand symptomatic treatment. Patient became afebrile with treatment and arthralgias also improved. Patient is on constant follow up for further management.

Discussion

Anti-synthetase syndrome is an autoimmune condition, characterized by antibodies directed against an aminoacyl transfer RNA synthetase along with clinical features comprising of unexplained fever, arthritis, myositis, Interstitial lung disease and Raynaud's phenomenon[1,2].It is a rare autoimmune disorder requiring specific serological investigations apart from clinical features. It involves multiple systems of the body and the symptoms and severity of the disease vary greatly among affected individuals.Anti-synthetase syndrome effects females twice as often as males(2-3:1) and age of onset can range from the late teens to the elderly, with a mean average of the 50s. The exact incidence or prevalence of the disorder is unknown because being a rare disorder, it usually goes undiagnosed.Myositis is the most commonpresentation in patients, associated with anti Jo-1 antibodies.It is present in around 90% of the patients and usually involves the proximal muscles but can involve the respiratory muscles as well. Interstitial lung disease develops in 60% patients with anti-Jo-1 anti-synthetase syndrome and is major cause for the

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high morbidity and mortality of patients.Interstitial lung disease usually begins with shortness of breath and cough but can progress to respiratory insufficiency and even life-threatening respiratory failure. Polyarthritis is associated with pain and stiffness of the joints and is usually a non-erosive arthritis predominantly involving the small joints of the body. Fever is present in around 20% of the patients and relapse and recur during the disease. Patients can present with nonspecific symptoms including fatigue, loss of appetite and weight loss[3]. Our patient was being investigated for pyrexia for at least 2 years and was being treated with antibiotics. There were no other symptoms except for diffuse arthralgias. Patient was investigated as a case of pyrexia of unknown origin and based on the clinical features as well as laboratory investigations was diagnosed with Anti synthetase syndrome. The exact cause of anti-synthetase syndrome is not fully understood. Autoantibodies identified in this disorder include anti-Jo1, anti-EJ, anti-OJ, anti-PL7, anti-PL12, anti-SC, anti-KS, anti-JS, anti-HA, anti-YRS, anti-tryptophanyl, and anti-Zo. Anti-Jo1 is the most common autoantibody detected in individuals with anti-synthetase syndrome[4].According to diagnostic criteria. proposed by Connors et al for the anti-synthetase syndrome presence of an anti-aminoacyl tRNA synthetase antibody is required along with one or more of following clinical features:Raynaud's phenomenon, arthritis, interstitial lung disease, fever, and mechanic's hands[5]. Our patient described here had criteria fulfilling as per the Connors criteria.Management of the anti-synthetase syndrome requires a multi-speciality approach. Muscle involvement as well as pulmonary involvement requires the use of steroids as well as immunosuppressive therapy[6]. Steroids are the first line of therapy in the patients. Immunosuppressive drugs include use of azathioprine, mycophenolate mofetil, methotrexate as well as rituximab. Both mycophenolate as well as rituximab are used in refractory cases[7]. Intravenous immunoglobulins also can be used in patients who are refractory to steroid as well as other immuno-suppressive therapy[8].Physical therapy and rehabilitation play their role in reducing further muscle wasting from disuse and preventing muscle contractures.

Conclusion

Our case report stresses the importance of evaluating the patients with unexplained fevers for the presence of rare autoimmune connective tissue disorders which can be easily missed if not evaluated. Diagnosis of this rare disorder has both prognostic as well as therapeutic implications. There is delay in the diagnosis because of varied and nonspecific presentation of the disease. Initially patient do not present with all the features of disease, but can develop at any time of the disease course, so further follow up of the patient is essential as well.

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