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Atypical Erythema Nodosum - A Case Report and Brief Review of Literature

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Abstract

Tuberculosis is a very common disease which may present in an atypical and uncommon form. It needs careful analysis and examination, specially when there is atypical presentation like erythema nodosum. Erythema nodosum is an inflammatory disease of skin and subcutaneous tissues presenting as ill defined acute erythematous painful nodules usually on extensor aspect of lower legs. Majority of patients are females. A careful thorough clinical and laboratory investigations in patients with erythema nodosum is required to detect a possible systemic underlying condition. We report a case series of three patients who presented with erythema nodosum as the sole presentation of tuberculosis. The diagnosis was confirmed on histopathological examination of skin biopsy which showed septal panniculitis and chronic dermal inflammation. All the three patients responded well to treatment with anti- tubercular drugs.

Keywords: Erythema Nodosum; Tubercular protein; Hypersensitivity

Introduction

The atypical presentation of tuberculosis may be due to increased hypersensitivity reaction to tubercular protein in patients with or without active disease like phylectanular conjunctivitis, erythema nodosum, increased dermal protein hypersensitivity, reactive polyarthritis (Poncet's disease). Occurrence of more than one reaction in a single patient is very uncommon [1]. This led us to report this case and review the concerned literature. Erythema Nodosum is a dermal inflammation and panniculitis characterised by pretibial erythematous tender nodules that occur in deep dermis and subcutaneous tissues. It is a hypersensitivity reaction and results from a variety of infections, inflammatory connective tissue disorders and certain drugs [2] like sulphonamides, estroprogestins, amoxicillin etc. Rare causes include viral infections (HIV, EBV, Hepatitis B and C), parasitic infections like amoebiasis and giardiasis and lymphoma and other malignancies [3]. Many of the underlying causes are treatable, hence emphasizing the need to fully investigate all possible causes. Tuberculosis is one of the infectious causes of Erythema Nodosum but Erythema Nodosum as a sole presentation of Tuberculosis is very rare. Coexistence between Erythema Nodosum and arthritis has been described due to Yersinia enterocolitica and Loeffler's syndrome [4].

Case report

A twenty year old girl was referred to us from Dermatology Department with a diagnosis of Erythema Nodosum. She complained of painful red nodule on feet with ankle swelling and pain for last one month. There was a progressive increase in the severity of pain. There were no symptoms of cough,

expectoration, evening rise of temperature or weight loss. There was no history of contact of tuberculosis in the family and no history of skin rash and joint swelling in the past. She was not taking any medication before fifteen days when she consulted Dermatology OPD. She was treated with 30 mg of prednisone and 500mg of clarithromycin twice daily for fifteen days but there was little relief of her symptoms. Her ankle swelling, erythematous nodules and fatigue returned after one month. General examination did not reveal any abnormality except for bilateral ankle swelling, painful erythematous rash on anterior aspect of left shin and an erythematous nodule on right shin. Lab investigations were negative for Hepatitis B and C, HIV. ASO titre was normal. Renal, liver and thyroid function test were normal. Chest radiograph was normal. Test for auto antibodies like ANA and anti dsDNA and Rheumatoid factor was also negative. Serum Angiotensin Converting Enzyme level was normal. The Mantoux test was significantly positive .After thorough investigation no other focus of active tuberculosis was found anywhere. In the light of positive Mantoux test and reactive arthritis with Erythema Nodosum, Tuberculosis was the likely diagnosis. Patient was started on anti Tuberculosis treatment and was told to come for follow up in Pulmonology OPD. At the end of first month of treatment her ankle swelling and skin nodules subsided significantly. This case is unique because EN is sole manifestation of tuberculosis (Figure 1).

Figure 1: Red nodule on feet with ankle swelling.

Discussion

Erythema nodosum is a skin manifestation of some systemic involvement [5]. It is an acute painful nodular erythematous eruption which is usually limited to the extensor aspect of legs. It is a hypersensitivity reaction which is commonly seen in conditions like sarcoidosis, chronic diseases like irritable bowel syndrome or it may be idiopathic.[5] It is common in young adults aged 18 to 34 years though it may occur in children and elderly as well. It usually presents as bluish red tender and nodular lesion which is poorly demarcated. Arthralgia is also commonly associated with eruption of these nodules. EN commonly shows predisposition to ankle, knee and wrist joints. There are no underlying destructive changes in the joint as seen by negative RA factor and ANA titer. It is important to rule out any history of drug intake and oral contraceptive use by female patients. Sarcoidosis and tuberculosis need to be ruled out as the possible etiology by blood investigations, computed tomography, mantoux and chest radiograph. Sometimes it may be difficult to detect the underlying disease which may result in late diagnosis as approximately 95% of individuals exposed to Mycobacterium Tuberculosis are clinically asymptomatic, while primary tuberculosis which is localised to lungs occurs in 5% of the patients. EN is a delayed hypersensitivity reaction which occus in response to infections, autoimmine diseases or drugs, nearly 70 5 of cases are idiopathic. Tuberculosis is a common cause of EN in endemic region [6]. Thus EN is a strong predictor of tuberculosis or it may be an early symptom of primary or extrapulmonary tuberculosis in high burden countries like India. It needs careful history and examination to reach at the diagnosis of the disease. It may occur even before the development of positive skin test reaction to tuberculin [7] and sometimes it may be the only manifestation of the disease in patients with strongly positive skin tuberculin test as reported in our case.

Conclusion

To conclude, there is also debate whether demonstration of Mycobacterium tuberculosis infection and EN should be treated as active tuberculosis by standard anti TB regimes or it should be taken as latent tuberculosis and treated with prophylactic treatment. Our patient comes from tuberculosis endemic region and had strongly positive Mantoux test, reactive arthritis and EN and rapid resolution of symptoms with anti-tuberculosis treatment.

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