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Case Report
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Erythema Induratum of Bazin. A Cutaneous form of Tuberculosis

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Abstract

Although rare, there are numerous cutaneous manifestations of tuberculosis, including tuberculids. Erythema induratum of Bazin (EIB) is a form of tuberculid resulting from hypersensitivity to tuberculosis antigen. We present a case of EIB, that manifested as a chronic nodular panniculitis. The patient was treated with antituberculosis drugs, with lesion remission.

Introduction

Cutaneous tuberculosis is classified into multibacillary and paucibacillary forms. Paucibacillary forms include tuberculosis verrucosa cutis, lupus vulgaris and tuberculids. The most common form of tuberculids is erythema induratum of Bazin (EIB) [1,2].

EIB is a rare chronic, nodular ulcerated lesion, not painful, with recurrent flares. Typically occurs in the lower legs of middle-aged women, most frequently seen in posterior and anterolateral areas [3].

The classic histology characteristics are granulomatous inflammation, with necrosis of fat tissue, a septal panniculitis, and vasculitis [4,5]. The etiopathogenesis of EIB and its relation to Tuberculosis are still controversial. EIB has been associated predominantly with Tuberculosis (TB) because of frequent co-occurrence of the two diseases [4,6]. However, Mycobacteria is difficult to be cultured from the skin lesions [3]. Disease associations other than TB are much less common, however, EIB has also been associated with other infections and noninfectious disorders, like hypothyroidism, chronic lymphocytic leukemia, rheumatoid arthritis, and Crohn's disease [4,6].

Case Presentation

An 82-year-old woman, leucodermic, born in Portugal, without history of recent travels, currently retired (previous occupation was kindergarten teacher). No relevant personal history. She was referred to Dermatology for presenting three lesions, in the anterior region of the leg (a papule accompanied by subcutaneous nodules and two erythema-violaceous plaques), painless, non-ulcerated and non-pruritic with one year evolution (Figure 1). There was no history of local trauma or thrombophlebitis. The patient denied night sweats, weight loss, respiratory symptoms or others that suggested involvement of other target organs. A skin biopsy was performed which showed lobular panniculitis with areas of necrosis, surrounding granulomatous infiltrate and nodular vasculitis. The direct examination and Nucleic Acid Amplification Test (NAAT) were negative. The patient had a positive IGRA and no changes in thoracic CT. The patient was tested negative for HIV and chronic viral hepatitis B and C. Once other causes of erythema induratum de Bazin were excluded and the test Interferon Gamma Release Assay (IGRA) was positive, the diagnosis of cutaneous tuberculosis was assumed and a therapeutic regimen with rifampicin, isoniazid, pyrazinamide and ethambutol was initiated. The skin eruptions slowly disappeared with the treatment.

Discussion

The etiopathogenesis of EIB and its relation to Tuberculosis are still controversial since mycobacteria cannot be cultured from the skin lesions [3]. The direct cause of the skin lesions is unknown but EIB is thought to be characterized by hypersensitivity reaction to antigens similar to what happen with other conditions, like hepatitis C, sarcoidosis and other chronic inflammatory conditions. In EIB case, a hypersensitivity reaction to *Mycobacterium tuberculosis* antigens [2].

Tuberculids diagnosis is based on correlation of clinic, epidemiology, histopathology, a positive tuberculin test result and/or IGRA, and resolution of the lesions with anti-tuberculous treatment [3,7]. In patients without TB findings, it is important to test for other infections as chronic hepatitis

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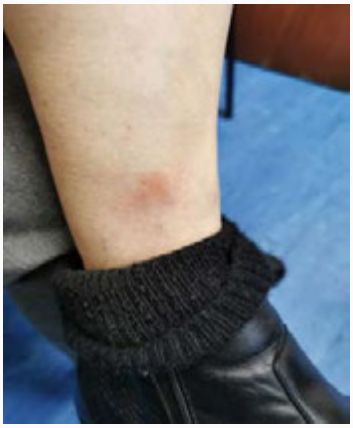

Figure 1: Nodular lesion on anterior region of left leg.

C viral infection [3].

EIB can be misguided with others nodular lesions like erythema nodosum, cutaneous polyarteritis nodosa, sclerosing panniculitis, perniosis, pancreatic panniculitis, lupus erythematosus profundus, and subcutaneous panniculitis-like T-cell lymphoma. It´s essential for distinction a complete clinical history and physical examination and in many patients, a biopsy [3].

Histologic features vary with time of the lesions. The classic histology is: A focal or more diffuse lobular and septal panniculitis, fat necrosis, granulomatous and lymphocytic inflammatory infiltrates, and sometimes well-formed granulomas and even tuberculoid caseous granulomas, and vasculitis at the septa [1-3].

Acid-fast bacilli are rarely found, even on culture, but mycobacterial DNA has been demonstrated within lesions using polymerase chain reaction methods [1].

In most patients who have EIB, resting, nonsteroidal anti-inflammatory drugs, and using compression stockings or supportive bandages can lead to complete remission of the lesions. In more severe cases, potassium iodide, dapsone, colchicine, antimalarials, tetracyclines, gold salts, and prednisone can alleviate symptoms and inducing lesion remission, although they do not avoid late recurrences. Many authors defend anti-tuberculous treatment with isoniazid, ethambutol, rifampin, and pyrazinamide for 6 or 9 months with isoniazid, rifampin, and pyrazinamide, even if association to TB has not been proved [3].

In presented case, patient fulfilled the clinical and histologic criteria for erythema induratum of Bazin. She had positive IGRA without other findings and responded to antituberculosis therapy suggesting that the cause of erythema induratum of Bazin is associated with *Mycobacterium tuberculosis*.

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