Subcutaneous Sarcoidosis as a Manifestation of HAART-induced Immune Reconstitution Syndrome

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Abstract

Subcutaneous sarcoidosis (Darier-Roussy disease) most often presents as skin-colored, firm, mobile subcutaneous nodules in the absence of epidermal change. These lesions most frequently involve the extremities and may be tender or asymptomatic. Subcutaneous sarcoidosis is commonly associated with visceral disease involvement.1,2 For patients infected with HIV, combination antiretroviral therapy has shown to significantly decrease morbidity and mortality associated with the disease by suppressing viral replication and improving host cellular immunity. Immune reconstitution syndrome is a significant complication associated with immune restoration following initiation of combination antiretroviral therapy.3 Here we describe the case of a 44-year old Hispanic HIV positive male who developed subcutaneous sarcoidosis associated with pulmonary involvement after receiving antiretroviral therapy for the past year. The patient had no prior history of sarcoidosis. We describe the clinical, histopathological, radiographic, and laboratory evidence that led to his diagnosis.

Case Presentation

A 44-year old Hispanic HIV positive male presents to the clinic with a history of painful subcutaneous masses involving bilateral upper and lower extremities for the past 5 days with an associated fever. Figures 1-2 show the lesions as they were seen and palpated at the patients’ initial visit to our clinic. The patient denies a recent history of joint pain, cough, or shortness of breath. The patient had been on a fixed-dose combination therapy for HIV which included abacavir, dolutegravir, and lamivudine for the past year, which was tolerated well.

Histopathology

A 4 mm punch biopsy was performed from the right upper arm to rule out morphea versus panniculitis versus other. Microscopic analysis of the specimen revealed discrete collections of epithelioid histiocytes within the subcutis rendering a diagnosis of sarcoideal granulomatous panniculitis. The Fite and GMS stains were negative.

Laboratory Data

CBC/CMP- within normal limits
Quantiferon-TB Gold- negative
ACE-147 U/L
ESR- 12 mm/hr
Absolute CD4 cells- 137 cells/mcl
HIV 1 RNA- undetectable on PCR

Radiology

PA and lateral chest X-ray- bilateral hilar enlargement suspicious for lymphadenopathy.

Discussion

Sarcoidosis is characterized by an upregulation of CD4+ T helper cells that contribute to the formation of granulation tissue in response to antigen(s). The precise antigens leading to sarcoidosis are uncertain; however, both autoimmune and infectious etiologies have been proposed. Given that the hallmark of human immunodeficiency virus (HIV) is deficiency of functioning CD4+ lymphocytes, it rarely co-occurs with sarcoidosis.3,4 Immune reconstitution syndrome most commonly presents as the reactivation of opportunistic infections, and less commonly autoimmune disease, in patients receiving combination antiretroviral therapy.4 Recognizing immune restoring therapies as a potential cause of cutaneous, subcutaneous, and/or visceral sarcoidosis can help the clinician initiate the appropriate work up with the goal of prompt diagnosis and treatment of this disease.

References


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