Clinical vignette: A case of TB-induced hypersensitivity

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A Case of TB-Induced Hypersensitivity
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Background

Erythema induratum (EI), also referred to as Erythema induratum of Bazin or nodular vasculitis, describes the most common variant of lobular panniculitis initially described by Bazin in 1861. Around 1900, the link between EI was noted and EI was then classified as a tuberculid. More recently, EI was reconsidered as a hypersensitivity reaction often, but not exclusively, associated with Mycobacterium tuberculosis infection.

EI presents clinically as painful, recurrent violaceous nodules and plaques on the lower extremities that then leave a scar hyperpigmentation. It can closely resemble erythema nodosum and is distinguished histopathologically.

Case Presentation

A 53-year-old man who immigrated to the United States from Vietnam approximately 1 year prior presented to his primary care physician with a rash on his lower leg. He described a 1-month history of painful, red bumps initially on his calves, which spread anteriorly. He rated the pain 9/10 and complained that it kept him up at night. Ibuprofen provided some relief and oxycodone provided no relief. He was given a course of Kellex but his rash did not respond. He also complained of fevers, chills, fatigue, joint pain and swelling (ankles, MCPs, and PIPs). He denied cough, hemoptysis or night sweats. He also denied recent travel or sick contacts, including known exposure to anyone with tuberculosis. The patient was referred to Rheumatology at which time he was considered to have erythema nodosum and hydroxychloroquine was prescribed. Several labs were ordered including a QuantiFERON Gold, which came back reactive. Other abnormal labs included elevated ESR, CRP, C4, and a differential significant for an eosinophilia. A prior chest x-ray was negative. Patient was referred to the Department of Health for latent tuberculosis, as well as to Dermatology for skin biopsy. Biopsy was undertaken and showed septal and lobular panniculitis with granulomatous inflammation, fat necrosis, casating necrosis, and vascular damage (a deep dermal vessel had fibrinoid necrosis), all consistent with EI. As a result, the patient was advised to stop taking the hydroxychloroquine and was counseled on the importance of compliance with his anti-tuberculosis regiment. Following this, the patient was treated for latent TB, and his EI significantly improved.

Treatment

It is essential to treat the underlying cause. In the case of association with tuberculosis, evidence supports treating with “RIPE” for 8 weeks initially, followed by maintenance treatment with rifampin and isoniazid for 14 weeks (assuming low levels of isoniazid resistance). In addition to association with TB, EI has been associated with HCV, HBV, CLL, hypothyroidism.

Discussion

This case illustrates a fascinating example of a cutaneous reaction to M. tuberculosis. Although this patient did not display any classical symptoms associated with TB—he had no pulmonary involvement—his underlying illness was revealed by a QuantiFERON Gold prior to starting strong immunosuppressants. Erythema induratum is easily misidentified as erythema nodosum, and the biopsy is crucial in distinguishing the two. As treatment differs for these two types of panniculitis, it is critical to correctly identify the condition.

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