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Mycophenolate-Induced Disseminated TB in a PPD-Negative Patient

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Abstract : Individuals with underlying rheumatologic diseases such as dermatomyositis may not adequately respond to tuberculin (PPD) skin tests, creating false negative results. These illnesses are frequently treated with immunosuppressive therapy making proper identification of TB infection imperative. A 59-year-old Filipino man was diagnosed with dermatomyositis on the basis of rash, electromyography, and muscle biopsy. He was initially treated with IVIG infusions and transitioned to oral prednisone and mycophenolate. The patient's symptoms improved on this regimen. Six months after starting mycophenolate, the patient began having fevers, night sweats, and productive cough without hemoptysis. He moved from the Philippines 5 years prior to dermatomyositis diagnosis, denied sick contacts, and was PPD negative both at immigration and immediately prior to starting mycophenolate treatment. A third PPD was negative following the onset of these new symptoms. He was treated for community-acquired pneumonia, but symptoms worsened over 10 days and he developed watery diarrhea and a growing non-tender, non-mobile mass on the left side of his neck. A chest x-ray demonstrated a cavitary lesion in right upper lobe suspicious for TB that had not been present one month earlier. Chest CT corroborated this finding also exhibiting necrotic hilar and paratracheal lymphadenopathy. Neck CT demonstrated the left-sided mass as cervical chain lymphadenopathy. Expectorated sputum and stool samples contained acid-fast bacilli (AFB), cultures showing TB bacteria. Fine-needle biopsy of the neck mass (scrofula) also exhibited AFB. An MRI brain showed nodular enhancement suspected to be a tuberculoma. Mycophenolate was discontinued and dermatomyositis treatment was switched to oral prednisone with a 3-day course of IVIG. The patient's infection showed sensitivity to standard RIPE (rifampin, isoniazid, pyrazinamide, and ethambutol) treatment. Within a week of starting RIPE, the patient's diarrhea subsided, scrofula diminished, and symptoms significantly improved. By the end of treatment week 3, the patient's sputum no longer contained AFB; he was removed from isolation, and was discharged to continue RIPE at home. He was discharged on oral prednisone, which effectively addressed his dermatomyositis. This case illustrates the unreliability of PPD tests in patients with long-term inflammatory diseases such as dermatomyositis. Other immunosuppressive therapies (adalimumab, etanercept, and infliximab) have been affiliated with conversion of latent TB to disseminated TB. Mycophenolate is another immunosuppressive agent with similar mechanistic properties. Thus, it is imperative that patients with long-term inflammatory diseases and high-risk TB factors initiating immunosuppressive therapy receive a TB blood test (such as a quantiferon gold assay) prior to the initiation of therapy to ensure that latent TB is unmasked before it can evolve into a disseminated form of the disease.

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