A Case of Miliary Tuberculosis in a Young Immunocompetent Female

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Introduction:

Miliary tuberculosis (TB) refers to the hematogenous spread of Mycobacterium tuberculosis bacilli. It is a rare disease with only 2% of the 9,000 cases of tuberculosis reported annually accounting for miliary TB. Classically, it occurs in the lungs with radiologic findings of millet sized nodules scattered diffusely throughout the lung parenchyma. Miliary TB is usually only observed in young children or in severely immunocompromised adults, especially those with Human Immunodeficiency Virus (HIV). We present a rare case of miliary TB in an immunocompetent adult female.

Case Presentation:

A 23-year-old Honduran born female with a past medical history of asthma presented to the hospital with symptoms of chest pain, shortness of breath, productive cough, fever and night sweats for two weeks. Prior to presentation, she completed a course of amoxicillin for pneumonia but failed to improve prompting her to seek further care. Of note, she had been admitted to the hospital three months prior, at which time she was treated for enterocolitis and bilateral pneumonia. During her previous admission, she presented with abdominal pain and diarrhea. CT of the abdomen and pelvis demonstrated inflammation of the terminal ileum and sigmoid colon suspicious for enterocolitis. Bilateral peribronchial infiltrates were noted at the lung bases on CT of the abdomen and pelvis. A dedicated CT of the chest was performed which demonstrated scattered nodular densities bilaterally, some of which appeared cavitary. She was started on antibiotics for her pneumonia and enterocolitis and was discharged home. Despite improvement in her diarrhea, she reported a 25 pound weight loss over the following months. A repeat CT of the chest was obtained on the current admission given her pulmonary complaints; worsening bilateral nodular infiltrates with enlargement of the cavitary lesions and bilateral hilar adenopathy highly suspicious of miliary tuberculosis was demonstrated. Sputum cultures were obtained with Mycobacterium tuberculosis complex isolated on all three acid fast bacillus (AFB) cultures. Rifampin, pyrazinamide, isoniazid and ethambutol (RIPE) were initiated along with pyridoxine (vitamin B6). Serology for HIV was negative.

Discussion:

Misdiagnosis of miliary TB is common with up to 50% of cases discovered post mortem. Our case highlights that regardless of immune status, miliary TB should be considered in immigrants from tuberculosis endemic regions with pulmonary symptoms and radiologic findings of nodular densities with cavitation. Although not confirmed, our patient’s episode of enterocolitis may have been an extrapulmonary manifestation of tuberculosis involving the small bowel and colon. These findings are suggestive of impaired cell mediated immunity, however, in the absence of HIV or immunosuppressive therapy as in our patient, the cause is unknown. It is therefore imperative to maintain a high index of clinical suspicion in order to initiate antitubercular treatment in a timely manner to avoid morbidity and mortality.
References:


