

Chronic Pneumonia in a 1-year-old Male

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Introduction: The differential diagnosis for chronic pneumonia in an infant includes congenital anatomical lung abnormalities, infectious etiologies, and respiratory function or immune system disorders. In this case report we describe the diagnostic approach to chronic pneumonia in infancy through the case of a 1-year-old male found to have disseminated tuberculosis.

Case Description: A 12-month-old male was admitted to the pediatrics service for pneumonia. Patient was born at 37-weeks and birth course was complicated by congenital syphilis requiring a 10-day NICU stay. Patient was first noted to have presumed bacterial pneumonia at 8 months of age and was treated with multiple courses of antibiotics (cefdinir, amoxicillin-clavulanate, clindamycin) with clinical response during which fever and cough improved; however, after antibiotic discontinuation symptoms reappeared and serial imaging showed persistence of right middle and lower lobe pneumonia. Patient had no additional medical diagnoses, had never travelled outside of the United States, and had no known sick contacts. At time of admission patient was febrile with diminished aeration and crackles noted over the right middle and lower lobes; the remainder of vitals and physical exam were within normal limits.

The differential diagnosis for the patient included congenital pulmonary airway malformation, congenital bronchopulmonary sequestration, cystic fibrosis, primary ciliary dyskinesia, chronic granulomatosis disease, Langerhans cell histiocytosis, sarcoidosis, HIV, and tuberculosis. Patient had a positive QuantiFERON test and PPD with 20 mm induration. Further imaging to determine the extent of organ involvement secondary to patient's tuberculosis demonstrated chronic necrotizing pneumonia of the right middle and lower lobes with nodules in the bilateral upper lobes, retro-aortic and splenic lesions, and cervical lymphadenopathy. Patient was started on therapy with rifampin, isoniazid, pyrazinamide, and ethambutol. Seven months after starting treatment, the patient has remained asymptomatic.

Discussion: This case demonstrates the critical importance of a thorough work-up including tuberculosis testing in infants with chronic or recurrent pneumonia. In some circumstances, tuberculosis can present as a lobar pneumonia or with secondary bacterial pneumonia. The patient's improvement while on antibiotics appropriate for community acquired pneumonia obscured the clinical picture, possibly a result of treating secondary infections.