

A 21-Year-Old Immunocompetent Man With Hemoptysis and Rash.

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A 21-Year-Old Immunocompetent Man With Hemoptysis and Rash

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A 21-year-old man presented to the ED of The George Washington University Hospital complaining of chills, shortness of breath, hemoptysis, and a generalized rash. Three days before admission, he noticed a productive cough, severe sore throat, and subjective fever. He also experienced extreme fatigue, generalized sweating, and chest pain with coughing. On the day before admission, he experienced a nonpruritic rash on his neck, palms, and dorsal surfaces of his feet and sputum with streaks of blood. The patient had no significant medical or family history. He had no sick contacts, and his only recent travel was to an outdoor concert in a woody area of the northeastern United States about a month earlier. He did not report recent contact with birds or visits to caves. He is single, lives alone in an apartment, and consumes about 4 alcoholic beverages a week. Occasionally, he smokes cannabis and e-cigarettes. He is sexually active with men, and his last unprotected sexual encounter was a month earlier. He denied photophobia, rhinorrhea, ear pain, nasal congestion, abdominal pain, nausea, vomiting, diarrhea, or dysuria.

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Physical Examination Findings

The patient was a healthy-looking young man who complained of right-sided pleuritic chest pain with cough productive of blood-streaked sputum. His temperature was 39.4°C; BP, 144/75 mm Hg; heart rate, 120 beats/min; and oxygen saturation 95% on room air. Pupils were equal, round, and reactive to light with normal conjunctiva. The pharynx was erythematous with no exudates. No oral lesions were present, and the mucous membranes were dry. Bilateral cervical lymphadenopathy was present. Lungs were clear to auscultation bilaterally with no wheezing, rales, or rhonchi. Cardiovascular examination revealed increased rate and normal rhythm, no murmurs. The abdomen was not tender and not distended with normal bowel sounds and no hepatosplenomegaly. The bladder was not distended, and there was no costovertebral tenderness. There was full range of motion in all joints without swelling, tenderness, or edema. There were no focal neurologic deficits or meningeal signs. Several erythematous blanching macules were observed on base of the neck, elbows, and antecubital fossa, coalescing into large patches on the back (

A, Rash on lateral chest and periaxillary area. B, Rash on back.

A CBC count was significant for WBC count of 14.75×10

Respiratory BioFire Diagnostics (Salt Lake City, UT) polymerase chain reaction (PCR) was negative for adenovirus, coronavirus HKU1, HL63, and OC43, human metapneumovirus, rhinovirus/enterovirus, influenza A/B, parainfluenza 1 through 4, respiratory syncytial virus,

Mycoplasma pneumoniae

Streptococcus pneumoniae

Legionella pneumophila

Histoplasma capsulatum

Chest radiography on admission showed a wedge-shaped cavitory density in the posterior segment of the right upper lobe with no pleural effusion or pneumothorax (

A1-A2, Anteroposterior and lateral chest radiographs on admission. B1-B4, Chest CT scan on admission.

Flexible bronchoscopy was performed. No thick yellow secretions were seen, and normal mucosa with patent airways were appreciated. The BAL was negative for infectious organisms, including mycobacteria. BAL showed 68% segmented neutrophils, 26% macrophages, 3% lymphocytes, and 3% eosinophils.

What is the diagnosis?

Diagnosis: *M pneumoniae*

Atypical pneumonia has been used as a broad diagnosis to refer to nontraditional presentations of pneumonia, specifically those with symptoms that juxtapose conventional pneumococcal pneumonia. The most common pathogen responsible for atypical pneumonia is

Cavitory lesions due to

Klebsiella pneumoniae

Cryptococcus neoformans

Mycobacterium tuberculosis

There are no distinguishing histories, physical examinations, or radiographic features that are sensitive or specific for

Non-respiratory tract symptoms of

The patient was admitted to an isolation room, given IV fluids, and started on linezolid, piperacillin-tazobactam, and levofloxacin. Because of the original negative infectious workup, a BAL was performed. Acetaminophen and nonsteroidal antiinflammatory drugs were used to reduce the patient's pain and fever. On the second day of admission, the patient was no longer febrile, and his shortness of breath and fatigue gradually improved. On the fourth hospital day, the rash resolved, and the patient was discharged home on a 28-day course of moxifloxacin with a follow-up appointment scheduled in the outpatient pulmonology clinic. On the day of discharge, his WBC count was 9.79×10

A1-A2, Anteroposterior and lateral chest radiographs on discharge. B1-B2, AP and lateral chest radiographs four days after discharge.

Rash can be present in 17% of patients with pneumonia due to

A negative respiratory PCR does not preclude mycoplasma infection; serology and cold agglutinins are beneficial to definitively rule out disease.

The degree of consolidation on chest radiography may be deceiving in respect to the presence and/or extent of cavitary lesions observed on CT scan.

Clinical improvement may be accompanied with worsening of the consolidation observed on chest radiography. Chest radiography alone should not be used as a criterion for discharge or measure of disease progression.

Mycoplasma pneumoniae pneumonia

10.1378/chest.95.3.639

Detection of *Mycoplasma pneumoniae* in adult community-acquired pneumonia by PCR and serology

10.1099/jmm.0.2008/003814-0

Mycoplasma pneumoniae: clinical features and management

10.4103/0970-2113.63611

PCR versus serology for diagnosing *Mycoplasma pneumoniae* infection: a systematic review & meta-analysis

Investigations of Mycoplasma pneumoniae infections in the United States: trends in molecular typing and macrolide resistance from 2006 to 2013

A compendium for Mycoplasma pneumoniae

10.3389/fmicb.2016.00513

Things that could be Mycoplasma pneumoniae

10.1016/S0163-4453(17)30198-6

A rare case of cavitary lesion of the lung caused by Mycoplasma pneumoniae in an immunocompetent patient

Cavitary lung diseases: a clinical-radiologic algorithmic approach

10.1016/j.chest.2018.02.026

Diagnosis and treatment of adults with community-acquired pneumonia. an official clinical practice guideline of the American Thoracic Society and Infectious Diseases Society of America

Am J Respir Crit Care Med

10.1164/rccm.201908-1581ST

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