

Mycoplasma Pneumonia and Its Complications

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KEYWORDS

- *Mycoplasma pneumoniae* • Extrapulmonary
- Atypical pneumonia • Neurological

Mycoplasma pneumoniae is an extremely interesting, very small, free-living organism that has no cell wall and that attaches readily to mucosal surfaces, such as the respiratory tract. It took years of investigation before *M pneumoniae* was found to be the most common cause of atypical pneumonia. *M pneumoniae* occurs in colleges, armed forces recruiting camps, and schools and is most common in children and young adults. Years ago, *M pneumoniae* was called “walking pneumonia,” because there was a discrepancy seen on chest radiograph with relatively few symptoms. The most common symptom is bronchitis, with symptoms persisting for weeks with a nonproductive cough and no fever initially. Later, nonbloody sputum develops with fever, headache, coryza, otitis media, and malaise. There is no exudate in the red pharynx, but bullae can be seen on the ear drum in children, which is highly diagnostic of *M pneumoniae*. Pulmonary infiltrates are often scattered throughout both lung fields. *M pneumoniae* is the most common cause of pneumonia in young adults and teenagers, increasing again in frequency in elderly people. Hospitalization is rarely required unless the individual is very sick or has complications. On examination, inspiratory respiratory rales are found in all lung fields. With children, the onset of wheezing with subsequent asthma can be a predominant finding.^{1–13}

The white blood cell count is often normal. However, extensive pneumonia can produce a profound leukocytosis with neutrophils. Toxicity is rare until the late stages of the illness. The sputum, unlike bacteria, is filled with lymphocytes and not neutrophils, unless secondary bacterial invasion is present. Chest radiograph shows unilateral or bilateral infiltrates, and rarely lobar consolidation, and up to 25% have small pleural effusions. Pleuritic chest pain is rare, as distinct from pneumococcal pneumonia.

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Most patients are treated empirically because of the frequency and lack of toxicity as compared with streptococcal pneumonia and that of other bacteria. In most cases, the diagnosis is made clinically or by epidemiology in the community. Although there are excellent culture techniques and even polymerase chain reaction (PCR) tests to detect this organism, it is practical to treat empirically and obtain *M pneumoniae* in nonresponders by new serological tests, such as IGM and IGG using enzyme-linked immunosorbent assays. These are the most common tests done today. Cold agglutinins are unpredictable, unreliable, and less sensitive. The more difficult tests, such as the complement fixation test, seem outdated. Paired serum samples taken 2 to 4 weeks apart to detect increase in antibody level is preferred to one determination to see a significant increase. PCR assay on sputum and mucosal cells may soon become a rapid diagnostic test for the fastidious, hard-to-grow organism.

COMPLICATIONS

This organism, by direct invasion or by immunity, can cause several complex illnesses, including skin rashes, such as erythema multiform and other rashes; pericarditis, rare but difficult to diagnose; hemolytic anemia due to cold agglutinin production;

Box 1

M pneumoniae pearls

M pneumoniae can have the following malfunctions:

- Neurological complications in 6% of hospitalized patients
- Cerebellar syndrome
- Bell and cranial nerve palsies
- Aseptic meningitis
- Coma
- Optic neuritis
- Acute psychosis
- Diplopia
- Guillain-Barré syndrome
- Peripheral neuropathy

M pneumoniae

- Can be found in neural tissue by PCR
- Can produce chronic pneumonia in a normal host
- Causes pneumonia, except in carcinoma, or ruptures the esophagus as a secondary invader
- Is increasing in frequency in nursing homes
- Can be found in the solid and surface water and increases in frequency during the rainy season; can be a tourist disease or may have an incubation period of many years
- Can resemble tuberculosis on radiograph
- Can be associated with bronchiolitis obliterans organizing pneumonia
- Can cause hemophilialike illness and rhabdomyolysis and polyarthralgia
- Is associated with onset of asthma

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