Mycoplasma – a guide to diagnostic testing

Background

Mycoplasma pneumoniae is an intracellular bacteria and one of the causes of atypical community-acquired pneumonia . It is the most commonly detected bacteria among children aged ≥5 years hospitalised with community-acquired pneumonia.

Epidemiology

Incidence and transmission-

Mycoplasma pneumoniae causes up to 20% of cases of community-acquired pneumonia and has been implicated in some hospital-based epidemics. Infection is common in children and young adults, and is often seen in close community settings such as boarding schools, universities, and military bases.The usual incubation period is 2-3 weeks. Person to person spread occurs via droplets. Epidemics occur at 3- to 5-year intervals.
There is a relative increase in incidence during the late summer or autumn.
Risk factors:
Previous exposure is protective while smoking poses a risk for disease.
US studies show ~5% hospitalized CAP is due to M. pneumoniae

No clinical features to distinguish from other causes of CAP

Mortality is low even in the elderly

Clinical presentation

Clinical presentation can vary from mild to severe illness (often noted in children ages 5 to 14 years old). Symptoms are often gradual in onset and nonspecific. Mycoplasma pneumonia is usually a self-limiting infection

The acute presentation may vary-

- Asymptomatic
- Fever, headache, sorethroat
- Wheeze
- Intractable cough – often non-productive
- Chills, but rarely rigors
- CXR changes of patchy consolidation and reticulonodular infiltrates

Extra-pulmonary symptoms may include haemolysis; rash (mild maculopapular or Stevens-Johnson); arthralgia and, rarely, arthritis and CNS involvement – encephalitis, transverse myelitis, cranial nerve palsies and ADEM.

Diagnosis

PCR on a sputum sample taken within 14 days of symptom onset is the test of choice.
The mainstay of serological diagnosis is by demonstrating a 4 fold rise in IgG between the acute and convalescent serum samples. The recommended time interval between samples is 4-6 weeks.

Serology (single sample) can be considered in the diagnosis, if the patient presents 14 days after symptom onset but this should be at the request of the patients Consultant and/or a Microbiologist/Virologist as a single raised titre is often not diagnostic.

References-

Mycoplasma pneumoniae: A Potentially Severe Infection - PMC (nih.gov)