***Chlamydiophila pneumoniae*- a guide to diagnostic testing**

Background-

Chlamydiaphila pneumoniae (an obligate intracellular bacterium) is a respiratory pathogen in humans that occurs worldwide and in all age groups. It is a cause of community-acquired pneumonia and may be responsible for epidemics in enclosed populations
Chlamydiophila pneumoniae is a causative agent of community acquired pneumonia in the UK and accounts for approximately 7% of cases. The incidence is increased in the elderly and diagnosis is notoriously difficult as the organism cannot be cultured. Therefore the true number of cases is likely to be underestimated

Epidemiology-

Incidence and transmission-

In four studies published after 2010, from geographically diverse areas, the prevalence of C pneumoniae infection ranged from 0% to 3.8%.
The incubation period can be about 3-4 weeks, which is more than most respiratory infections. The capacity of the pathogen to survive in aerosols in a humid environment also facilitates its transmission.
Infection usually occurs via human to human transmission, documented outbreaks are described in long term care facilities.

Risk factors-

- Contact with a positive case
- Contact with a known outbreak

Clinical presentation-

- Features of community acquired pneumonia; fever, cough and sputum production.
- *C pneumoniae* has also been associated with acute bronchitis and exacerbations of reactive airway disease. The association of *C pneumoniae* with upper respiratory tract infections including pharyngitis, sinusitis, and otitis media is less clear.
- Asymptomatic and mild infection is common
- Extra-pulmonary manifestations include meningo-encephalitis, Guillan Barre syndrome, reactive arthritis and myocarditis.

Diagnosis

Identification of the organism in respiratory specimens (nasopharyngeal swabs or aspirates, sputum and pleural fluid) or validated PCR is diagnostic. Serology correlates poorly with identification of the organism. PCR on a sputum sample taken within 14 days of symptom onset is the test of choice.

References

1.Chlamydia pneumoniae infection - Symptoms, diagnosis and treatment | BMJ Best Practice

***Chlamydiophila psittaci*- a guide to diagnostic testing**

Background-

Chlamydiophila psittaci Infection caused by the obligate, intracellular, gram-negative bacterium *Chlamydia psittaci* (formerly known as *Chlamydophila psittaci*), which causes community-acquired, atypical pneumonia or conjunctivitis. It is predominantly a pathogen of birds and mammals; humans are an accidental host. Exposure to infected birds is a common cause. Also known as parrot fever or ornithosis.

Epidemiology-
Incidence and transmission-

Chlamydiophila psittaci is a causative agent of community acquired pneumonia in the UK and is more common in young or middle aged adults.

Most cases have a history of contact with psittacine birds (parrots, parakeets, budgerigars, cockatiels and cockatoos). However, all birds can transmit the infection so any bird contact maybe relevant.

Human to human transmission is very rare.
The incubation period is usually 5-14 days (range 1-4 weeks).

One meta-analysis found that approximately 1% of cases of community-acquired pneumonia were due to *Chlamydia psittaci.*

There are approximately 25 to 50 laboratory confirmed cases in England & Wales each year.

Risk factors-

- Contact with a birds
- Contact with a known outbreak
- Work as a vet/ other occupational exposure (working in duck or poultry farms, and in abattoirs and processing plants/farmer)

Clinical presentation-

- Presentation is usually non-specific. The most common presentation is a respiratory tract infection with constitutional symptoms.
- Patients may have a history of gradual onset of fever, malaise, headache, and sore throat, with later onset of a non-productive cough. Less commonly, the onset may be more abrupt.
- C psittaci infection has also been associated with acute and chronic follicular conjunctivitis.

- Chest x-ray: may reveal the presence of pneumonia, and shows single lobar consolidation in approximately 90% of cases, usually in the lower lung. Approximately 50% of patients may have a small pleural effusion.
- Some individuals may develop serious widespread infection that affects several organ systems of the body including the gastrointestinal tract, heart, liver, skin and central nervous system. Associated symptoms may include nausea and vomiting, abdominal pain, bradycardia and jaundice.

- Rare complications include;Renal impairment, hepatitis, meningo-encephalitis, endocarditis, splenomegaly and can be life threatening in pregnancy.

Diagnosis

PCR testing is readily available than it was in the past, and Throat swab(green topped)/respiratory sample should be sent for Chlamydia PCR. It is a highly sensitive and specific test for *C psittaci* . It offers rapid detection and results can be obtained in time to guide treatment decisions.
Serology: microimmunofluorescence on paired serum samples (taken 2 to 4 weeks apart) was the preferred serological test and can be performed as a supportive test when PCR is not available. Cross reaction between other Chlamydia species can occur; therefore, results should be interpreted with caution, especially if the titer is <1:128.

References

1. Psittacosis - GOV.UK (www.gov.uk)

2. Psittacosis - Symptoms, diagnosis and treatment | BMJ Best Practice