

Psittacosis



Case Definition

Clinically compatible illness (see below) with demonstration of a four-fold rise in the complement fixation (CF) titre or demonstration of IgM to *Chlamydia psittaci*.

Reporting Requirements

- All positive laboratory tests for *C. psittaci* are reportable by laboratory.
- All cases are reportable by attending health care professional.
- Although not an agriculture-reportable disease, the Canadian Food Inspection Agency requests that they be advised of outbreaks in production bird flocks.

Clinical Presentation/Natural History

Psittacosis is an acute generalized chlamydial disease with variable clinical presentations; fever, headache, rash, myalgia, chills and upper or lower respiratory tract symptoms are common. Respiratory symptoms are often disproportionately mild when compared with the extensive interstitial pneumonia demonstrable on x-ray. Cough is initially absent or nonproductive; when present, sputum is scant. Pleuritic chest pain and splenomegaly occur infrequently; the pulse may be slow in relation to temperature. Encephalitis, myocarditis and thrombophlebitis are occasional complications; relapses may occur. Although usually mild or moderate in character, human disease can be severe, especially in untreated elderly persons.

Etiology

Chlamydia psittaci.

Epidemiology

Reservoir: The reservoir is birds, principally parakeets, parrots and lovebirds, less often poultry,

pigeons, canaries and seabirds. Birds that appear to be healthy can be carriers and shed the infectious agent in feces, particularly when subjected to the stresses of crowding and shipping. Imported psittacine birds are the most frequent source of exposure, followed by turkey, squab and duck farms; processing and rendering plants have also been sources of occupational disease. Laboratory infections have occurred.

Transmission: Inhalation of the agent from desiccated droppings, secretions and dust from feathers of infected birds. Person-to-person transmission has not been confirmed.

C. pneumoniae rather than *C. psittaci* organisms may have caused suspected cases of person-to-person transmission.

Occurrence:

General: Worldwide. May be associated with obviously sick or apparently healthy pet birds. Most human cases are sporadic; many infections are probably not diagnosed. Outbreaks occasionally occur in households, pet shops, aviaries, avian exhibits in zoos and pigeon lofts. Epidemics related to infected aviaries or bird suppliers may be extensive.

Manitoba: The rate of psittacosis has remained below one case per 100,000 population since 1970. Seven cases were reported from 1995 to 1999. In 1999, two cases were reported (0.17 per 100,000).

Incubation Period: From one to four weeks.

Susceptibility and Resistance: Susceptibility is general; immunity following infection is incomplete and transitory. Older adults may be more severely affected. There is no evidence that persons with antibodies at any given concentration are protected.

Period of Communicability: Diseased as well as seemingly healthy birds may shed the agent intermittently, and sometimes continuously, for weeks or months.

Diagnosis

The diagnosis may be suspected in persons with appropriate symptoms who have a history of exposure to birds and elevated or increasing antibodies to chlamydial antigens collected two to three weeks apart. Specimens should be sent to the Cadham Provincial Laboratory. Diagnosis can be confirmed by isolation of the infectious agent from sputum, blood or postmortem tissues in mice, eggs or cell culture, or by PCR. Recovery of the agent may be difficult, especially if the case has received broad-spectrum antibiotics.

Key Investigations

- History of contact with birds:
 - parrot family (parrots, budgies, lovebirds, etc.)
 - other caged birds
 - poultry farms
 - occupational exposure
 - contact with bird droppings or dander, e.g., pigeons
- Trace origin of suspected birds and test birds. Involve Manitoba Veterinary Services.
- Cultures of suspected bird cloacae or droppings.

Control

Management of Cases:

- No isolation necessary. Coughing patients should be instructed to cough into paper tissue.

Treatment:

- Antibiotics of the tetracycline group, given for 14 to 21 days. Erythromycin is an alternative when tetracycline is contraindicated (pregnancy, children less than nine years of age).

Management of Contacts:

- No public health follow-up required.

Management of Environment:

- Large doses of tetracycline can suppress, but not eliminate, infection in poultry flocks. Infected birds should be treated, and the area where they were housed thoroughly cleaned and disinfected with a phenolic or other cleaning compound. Quarantine infected farms or premises with infected birds until diseased birds have been destroyed or adequately treated with tetracycline and the buildings disinfected.
- In production facilities the dust level should be kept down and staff should wear filter masks.
- After the cultures are taken, affected pet birds should be quarantined and all suspected birds treated by a veterinarian. Tetracyclines can be effective in controlling disease in companion birds.
- Known infected birds should be isolated from people.

Management of Outbreaks:

- Surveillance of pet shops and aviaries where psittacosis has occurred or where birds have been epidemiologically linked to cases.
- Surveillance of farms or processing plants where human psittacosis has been traced epidemiologically.
- Liaison with Manitoba Veterinary Services.

Preventive Measures:

- Testing of birds before introducing them as therapy/companion animals.
- Educating of the public as to the danger of household or occupational exposure to infected pet birds. Medical personnel responsible for occupational health in processing plants should

Communicable Disease Management Protocol

be aware that febrile respiratory illness with headache or myalgia among the employees may be psittacosis.

- Regulation of the importation, raising and trafficking in birds of the parrot family. Prevent or eliminate infections of birds by quarantine

and appropriate antibiotic treatment. Reciprocal compliance with national regulations to control importation of psittacine birds.

- Psittacine birds offered in commerce should be raised under psittacosis-free conditions and handled in such a manner as to prevent infection.