Psittacosis

What is psittacosis?

Psittacosis is an infectious disease in humans that has mild, non-specific flu-like symptoms. Psittacosis refers to any infection or disease caused by Chlamydia psittaci, one of several microorganisms in the genus Chlamydia. This disease can be transmitted from infected birds to humans. Parrot disease, ornithosis, and chlamydiosis are other names for psittacosis.

What are the signs of infection among birds?

Chlamydia psittaci infects wild and domestic birds and poultry. Birds that can contract the infection include parrots, cockatiels, parakeets, macaws, canaries, pigeons, chickens, ducks, and turkeys. The time between exposure to Chlamydia psittaci and the onset of illness in caged birds ranges from three days to several weeks. Sick birds show signs of:

- sleepiness,
- shivering,
- weight loss,
- breathing difficulties,
- diarrhea

Birds can have a latent infection. “Latent” means they appear healthy and do not show any symptoms now but they can show symptoms later. These infected birds carrying the Chlamydia psittaci bacteria may shed the organism intermittently or sometimes continuously for weeks or months. Stress associated with nutritional deficiencies, overcrowding, breeding, egg-laying, and prolonged transport may cause birds with a latent infection to shed infectious agents. When shedding occurs, the infected birds excrete the bacteria in the feces and nasal discharges and the bacteria can remain infective for several months.

How do birds pass on the infection to humans?

Humans can become infected with Chlamydia psittaci by breathing in the organism when the urine, respiratory secretion, or dried feces of infected birds is aerosolized (i.e., dispersed in the air as very fine droplets or dust particles). Other sources of exposure include mouth-to-beak contact, a bite from an infected bird, and handling the plumage and tissues of infected birds.

Can humans transmit the infection to other humans?

Person-to-person transmission of the disease is rare. It may occur when a person is exposed to infectious, aerosolized droplets from another person experiencing paroxysmal (sudden, very forceful) coughing during the acute illness.

What are the signs of infection among humans?

When a person breathes in Chlamydia psittaci bacteria, the lungs' defense mechanisms attempt to neutralize them. The bacteria that avoid this defense start an infection that varies in severity from a mild flu-like illness to severe pneumonia. Generally, the signs and symptoms appear within four to 15 days after exposure but commonly occur after 10 days. These include:

- fever,
- chills,
- cough,
- weakness or fatigue,
- muscle and chest pain,
- loss of appetite,
- nausea,
- vomiting,
- diarrhea,
- headache,
- sweating, or
- abnormal intolerance to light.

Psittacosis is primarily a lung disease but it can involve several organs. Some reports show that inflammation of the liver, lining of the heart cavity, the heart muscle, and the brain can occur.

The course of the disease is variable and it can result in death. However, fatal cases are rare. In mild cases, fever may continue for three weeks or more.

How is psittacosis recognized and treated?

For accurate diagnosis of psittacosis, a doctor must know that the person has been exposed to birds and that the suspected birds are infected with Chlamydia psittaci. Laboratory examinations can identify the organism and detect the signs of infection. Patients who develop psittacosis require treatment with specific drugs. The disease is very responsive to tetracycline but is resistant to penicillin.

What occupations are at risk?

Psittacosis is an occupational health hazard for many people whose work brings them into contact with birds. These include:

- bird fanciers,
- pigeon fanciers,
- poultry production workers,
- poultry processing workers,
- pet shop employees,
- quarantine facilities employees,

- veterinary clinics employees,
- diagnostic laboratories employees,
- racing pigeons keepers,
- public health inspectors,
- exotic and domestic bird breeders, and
- bird dealers.

How can we control psittacosis?

Preventive measures include feeding birds properly, avoiding overcrowding, and adequate ventilation systems including the use of high-efficiency particulate air (HEPA) filters to reduce the spread of contaminated air. It is important to clean cages daily. Do not stack cages. Position cages to prevent the transfer of feces, food, feathers, and other material from cage to cage. Clean cages are also important.

To control the infection in pet birds and domestic poultry, it is necessary to add the antibiotic (e.g., chlortetracycline) to their feed. However, the owner or person in charge should contact a veterinarian for any treatment and subsequent testing that may be required. In most jurisdictions, all diagnosed cases must be reported to local public health authorities. Early diagnosis and reporting can help identify sources of infection and control further spread of psittacosis.

Educate workers who are at risk on how the disease can transfer from infected birds to people. Ask those individuals who think they may be ill to see a medical professional and inform the healthcare provider about their bird contact. Workers should know the risk of routinely mixing antibiotics into animal feed. In such situations, the concern is that antibiotic-resistant bacteria might develop in workers who contact the animals or their feed. This resistance makes the traditional diseases more difficult to treat and control.

Workers should keep infected birds in isolation and ensure these places are properly ventilated. All persons involved in the care of infected birds should wear protective clothing including gloves, eye wear, disposable surgical cap and a properly fitted respirator with N95 or higher rating. Surgical masks may not be effective in prevention transmission of Chlamydia psittaci. Avoid dry sweeping, brushing or vacuuming when cleaning cages. Waste material should be removed frequently from the cage after moistening the material with a disinfectant. Burn or double-bag waste for disposal. Chlamydia psittaci is susceptible to such disinfectants as quaternary ammonium compounds, isopropyl alcohol, 70% ethanol, glutaraldehyde, formaldehyde and household bleach (diluted to 1% sodium hypochlorite). Discard items that cannot be cleaned appropriately. Many disinfectants are respiratory irritants and should be used with appropriate precautions in a well-ventilated area. Avoid mixing disinfectants with any other product.