

FOWL CHOLERA: POULTRY

Pathology description

Fowl cholera, caused by infection with *Pasteurella multocida* (PM), is a disease of many avian species. Chickens, turkeys, ducks, and quail are the most important domestic avian species involved and the disease is of economical significance. *Pasteurella multocida* is a small (less than 2 mm long), Gram-negative, nonmotile rod or coccobacillus that varies in virulence depending on the strain. Although PM may induce lesions in multiple organ systems, respiratory pathology is the most important facet of the disease.

Pasteurella multocida is capable of multiplication in the bloodstream of a bird. As a result of this bacteremia, the organism may quickly colonize many organs, contributing to the typical purulent exudative lesions of fowl cholera seen in the joints, wattles, ovaries, brain, liver, spleen, and lungs. Shortly before a bird succumbs to the disease, PM will typically multiply to very high levels in the bloodstream and tissues. The incubation period is usually 5-8 days.

The bacterium is easily destroyed by environmental factors and disinfectants, but may persist for prolonged periods in soil. Reservoirs of infection may be present in other species such as rodents, cats, and possibly pigs. Predisposing factors include high density and concurrent infections such as respiratory viruses.

Symptoms

- Dejection
- Ruffled feathers
- Loss of appetite
- Diarrhoea
- Coughing
- Nasal, ocular and oral discharge
- Swollen and cyanotic wattles and face
- Sudden death
- Swollen joints (see picture)
- Lameness



Post-mortem lesions

- Sometimes none, or limited to haemorrhages at few sites.
- Enteritis.
- Yolk peritonitis.
- Focal hepatitis.
- Purulent pneumonia (especially turkeys).
- Cellulitis of face and wattles.
- Purulent arthritis.
- Lungs with a consolidated pink 'cooked' appearance in turkeys.

Costs of the disease

- Increased feed cost
- Mortality
- Less weight gain

Vectors

• Environment

Various animals, particularly cats and rodents, are a common source for the introduction of the organism into commercial poultry. *Pasteurella multocida* is not a common organism found in feed, water, or litter.

- **Material**

Contaminated equipment

- **Animal**

The main source of infection is the birds themselves, which contaminate their own environments. As many domestic poultry species tend to be cannibalistic, carcasses of birds that have died of fowl cholera serve as a source of PM to infect the remainder of the flock.

- **Feed and drinking water:**

Pasteurella multocida is not a common organism found in feed, water.

- **Working method**

Insufficient cleaning

→ MAIN VECTOR: contaminated birds

Preventive action

- proper rodent control and elimination of contact of poultry with other animals, such as cats, is an important measure for the prevention of the introduction of PM into a poultry flock.
- removal of dead birds from a flock with an active PM infection is an important means of impeding the spread of the infection within a flock.
- Clean the barn properly after every hatch, remove all the feces

Controlling action

A wide variety of drugs is available for the treatment of fowl cholera, frequent use of drugs has led to widespread drug resistance.

Advised Protocols

For every possible vector, a hygiene protocol must be implemented. See these Specific Purpose Protocol:



PERSONAL
HYGIENE



TRANSPORT



HOUSING
HYGIENE