



Tikrit University
College of Veterinary Medicine

Fowl Cholera

Subject name: Poultry Diseases

Subject year: 2024-2025

Lecturer name: Ismael I. Hasan

Academic

Email: ismailhasan@tu.edu.iq



Lecturers link



Fowl Cholera

Introduction

Fowl cholera (FC) is a contagious disease affecting domesticated and wild birds. It usually appears as a septicemic disease associated with high morbidity and mortality, but chronic or benign conditions often occur.

Synonyms: (avian cholera, avian pasteurellosis, or avian hemorrhagic septicemia).

Etiology

Pasteurella multocida, a gram-negative, nonmotile, non-spore-forming rod occurring singly, in pairs, and occasionally as chains or filaments is the causative agent of FC. In tissues, blood, and recently isolated cultures, the organism stains bipolar, grows aerobically or anaerobically. The optimal growth temperature is 37°C. The optimal pH range is 7.2–7.8, *P. multocida* has been divided into three subspecies namely:

P. multocida subspecies *multocida*

P. multocida subspecies *septica*

P. multocida subspecies *gallicida*

Resistance to Chemical and Physical Agents:

P. multocida is destroyed easily by ordinary disinfectants, sunlight, drying, or heat, being killed within 15 minutes at 56°C and 10 minutes at 60°C. A 1% solution of formaldehyde, phenol, sodium hydroxide, betapropiolactone, or glutaraldehyde and a 0.1% solution of benzalkonium chloride killed within 5 minutes.

Transmission:

- 1- Chronically infected birds are considered to be a major source of infection.
- 2- Flying birds having contact with poultry
- 3- Through the egg seldom, if ever, occurs.
- 4- Survivors of an epornitic of FC may be reservoirs of infection.
- 5- Contaminated crates, feed bags, or any equipment used previously for poultry may serve in introducing FC into a flock, primarily by excretions from the mouth nose, and conjunctiva of diseased birds that contaminate their environment, particularly feed and water

- 6- Organisms are disseminated throughout the carcasses of birds that die of acute FC
- 7- Transmission by flies, however, is probably not common and mite dose not transmit the organism.

Clinical Signs:

Acute:

- 1- Death may be the first indication of disease.
- 2- Fever, anorexia, ruffled feathers, mucous discharge from the mouth, diarrhea, and increased respiratory rate.
- 3- Cyanosis prior to death most evident in unfeathered areas of the head
- 4- Diarrhea is initially watery and whitish in color but later becomes greenish and contains mucus.
- 5- Birds that survive the initial acute septicemic stage may later succumb to the debilitating effects of emaciation and dehydration, may become chronically infected, or may recover.

Chronic:

- 1- Wattles, sinuses, leg or wing joints, foot pads, and sternal bursae often become swollen.
- 2- Exudative conjunctival and pharyngeal lesions may be observed, and torticollis sometimes occurs.
- 3- Tracheal rales and dyspnea.

P.M.lesions:

Acute:

- 1- General hyperemia
- 2- Petechial and ecchymotic hemorrhages, subserosal hemorrhages are common, as are hemorrhages in the lung, abdominal fat, and intestinal mucosa.
- 3- Increased amounts of pericardial and peritoneal fluid
- 4- Intravascular clotting or fibrinous thrombosis
- 5- Liver is swollen and usually contain multiple small focal areas of coagulative necrosis
- 6- Lungs of turkeys are affected more severely than those of chickens with pneumonia
- 7- Large amounts of viscid mucus may be observed in the digestive tract, particularly in the pharynx, crop, and intestine.
- 8- Ovaries of laying hens are commonly affected. Mature follicles often appear flaccid; thecal blood vessels, which are usually easily observed, are less evident
- 9- Yolk material from ruptured follicles may be found in the peritoneal cavity.
- 10- Immature follicles and ovarian stroma are often hyperemic

Chronic:

- 1- localized suppurative infections may be widely distributed anatomically. They often occur in the respiratory tract and may involve any part, including sinuses and pneumatic bones
- 2- Pneumonia.
- 3- Infections of the conjunctiva and adjacent tissues occur and facial edema may be observed.
- 4- Localized infections may also involve the hock joints foot pads, peritoneal cavity, and oviduct.
- 5- Torticollis and eventual death can be associated with infections of the cranial bones, middleear, and meninges with yellowish caseous exudate in air spaces of the calvarial bones.

Diagnosis:

- 1-clinical observations,
- 2-necropsy findings
- 3-isolation of *P. multocida*; a conclusive

Differential Diagnosis

- 1- *Avibacterium gallinarum* and *Gallibacterium anatis* biovar *haemolytica*
- 2- Newcastle Disease
- 3- Toxicity

Treatment

Sulfonamides, Streptomycin, Penicillin, streptomycin, oxytetracycline, Chlortetracycline, Novobiocin, Chloramphenicol, erythromycin, fluoroquinolones,

Prevention and Control:

- 1- Eliminating reservoirs
- 2- Good management practices, with emphasis on sanitation
- 3- Infection occurs after birds are in the hands (not a disease of the hatchery) of the producer, and consideration must be given to the many ways that infection might be introduced into a flock.
- 4- Water fountains should be self-cleaning, and feeders should be covered to prevent contamination as much as possible.
- 5- Free-flying birds, rodents, and other animals can be excluded.
- 6- If an outbreak of FC occurs, the flock should be quarantined and disposed of as soon as economically feasible.
- 7- All housing and equipment should be cleaned and disinfected before repopulation.