

COLIBACILLOSIS, AVIAN



This disease
is known to
occur in
Afghanistan.



1. Definition

Colibacillosis is a common bacterial disease of poultry, caused by *E. coli*, and characterized by systemic illness and poor production.

2. Etiology

The causative agent is *Escherichia coli*. These bacteria are ubiquitous in the environment, and access to the body is predisposed by immunologic immaturity, immune suppression, respiratory disease, and poor hygiene.

3. Transmission

The bird acquires the organism from the environment. Colibacillosis usually occurs after respiratory disease such as infectious bronchitis virus or *Mycoplasma gallisepticum*. Damage to the mucous membranes allows the *E. coli* access into the body. Also, subsequent to Gumboro disease, the chicken has enough immunosuppression that *E. coli* can gain entrance to the body.

4. Species affected

All poultry species are susceptible to the development of colibacillosis.

5. Clinical signs

Incubation period is 2-10 days. Morbidity is variable. There is a septicemia with seeding of serosal surfaces, as well as some solid organs - lungs, liver, and spleen. Signs of colibacillosis include coughing,

dyspnea, severe depression, inappetence, and poor growth rate. Mortality is 5-20%.

6. Pathologic findings

At postmortem, there can be fibrinous inflammation on any serous surface. Consequently it is possible to see airsacculitis, pericarditis, peritonitis, perihepatitis, and synovitis. Any of these surfaces will be covered by a yellow-white thin membrane of fibrin.

Additionally, the bacteria may have invaded into solid organs, especially liver and spleen, with swelling of these organs and formation of granulomas or development of caseous exudates.

7. Diagnosis

Pathologic lesions are highly characteristic. Definitive diagnosis requires culturing the bacteria in the laboratory. Differential diagnoses include: chronic respiratory disease, fowl cholera, pullorum disease.

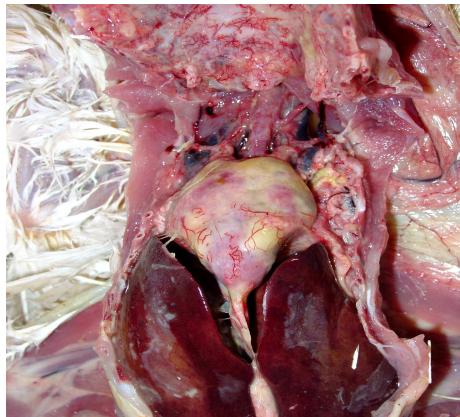
8. Treatment

A variety of antibiotics, such as amoxicillin, tetracyclines, genamycin, ceftiofur, and fluoroquinolones, will kill the *E. coli* within the bird. However, *E. coli* is extensive in the environment and there are predisposing factors that allow *E. coli* to enter and cause disease. Attention to these predisposing factors will help the flock more than any antibiotic therapy.

9. Prevention and Control

Commercial vaccines are available but are not in wide use. Because immunosuppressive and respiratory diseases (Gumboro disease, infectious bronchitis virus, *Mycoplasma gallisepticum*) can predispose to colibacillosis, control of these is important.

Good sanitation and adequate nutrition will prevent many cases of colibacillosis. Hygiene in the hatchery is especially important for preventing navel infections.



Colibacillosis - with fibrin covering the surface of the liver



Colibacillosis - fibrin and caseous exudates on the surface of the lungs, and fibrin covering the spleen