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Popular Article

Fowl Cholera

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Introduction

- Fowl cholera is an infectious disease caused by the bacterium *Pasteurella multocida*.
- Fowl cholera causes very high economic losses in chicken and turkey breeders, especially in broiler breeders, due to high mortality, low production of hatching eggs and reduction of fertility.
- Cases of complicated infectious coryza (*Avibacterium paragallinarum*) mainly associated with simultaneous infections of *P. multocida* have been described in chicken egg layer farms
- Adult birds are more susceptible to suffer acute cholera as compared to very young poultry birds that are protected by trans-ovo maternal immunity
- The diversity of conditions that have the different production systems, the quantity and density of birds in each house and the variable application of biosecurity measures should also be considered.
- Due to the stress caused by the high performance demands of the poultry industry, birds are raised in intensive production systems

Routes of infection and persistence of the pathogen on farms

- The disease is spread by ingestion through drinking water, food or litter contaminated with droppings from sick or carrier birds.
- The respiratory route is another common way of infection, either directly by sneezing among birds or by indirectly inhaling contaminated dust.
- Wounds or skin lesions may also be a source of infection.

Symptoms and lesions

- Fowl cholera has three clinical presentations: hyperacute, acute and chronic.



- The hyperacute form appears with the sudden death of birds without expressing the slightest symptom or detectable pathognomonic injury.
- The acute presentation course lasts for 1-2 days, during which the birds show anorexia, fever, intense thirst, sleepiness, prostration, profuse diarrhoea and sometimes bloody stained faeces, respiratory distress with abundant mucus and violet colour of the combs and wattles due to intense cyanosis.
- During the acute course of fowl cholera the lesions have the characteristic signs of a haemorrhagic septicaemia with petechiae and generalized haemorrhages in organs and skin, hepatomegaly and hepatic congestion, oedematous lungs which sometimes have small purulent grey areas, and a congestive spleen but without showing evident splenomegaly.
- The chronically diseased birds usually survive for a long time and become cachectic; commonly these birds have noticeable swelling of the combs and wattles, which is more evident in male breeders.
- The incision of the combs and wattles shows a purulent content or yellowing caseous lesions from which oozes a purulent fluid, sometimes these lesions may spread as subcutaneous abscesses.
- Yellowish cheesy-like caseum may be found, either in small pieces or big masses, which may be located in the air sacs and or peritoneum.
- Petechiae may be found in the heart and gizzard.
- Hepatomegaly and congestion of the liver is frequently found, with or without white spots of necrosis.
- Cardiac dilation and arthritis may also be found in a few birds of the flock.
- In the last phase of the disease, septicaemia occurs and *P. multocida* freely multiplies in the blood stream affecting the entire circulatory system.
- Hyperacute forms are infrequent in industrial poultry thanks to the implementation of immunization plans, as well as the use of strict application of good management and biosecurity measures.

Prophylaxis and vaccination

- It is desirable to vaccinate before 20 weeks of age, administering two doses of bacterin separated by a 3-to-4-week interval.
- In areas that are very exposed to the disease, it is advisable to apply the first dose from the 5th week of life onwards.
- Bacterins may be administered subcutaneously behind the neck or intramuscularly into the breast. In infected flocks, exposed to severe *P. multocida* challenge, revaccination should be carried out every 6 months.



Antibiotic treatment

- Treatment of choice could be made using florfenicol, trimethoprim-sulfamethoxazole or tetracycline. Secondly, depending on availability, ampicillin, kanamycin, colistin and enrofloxacin may be used.
- Generally, it is not advisable to administer streptomycin, gentamicin or neomycin.

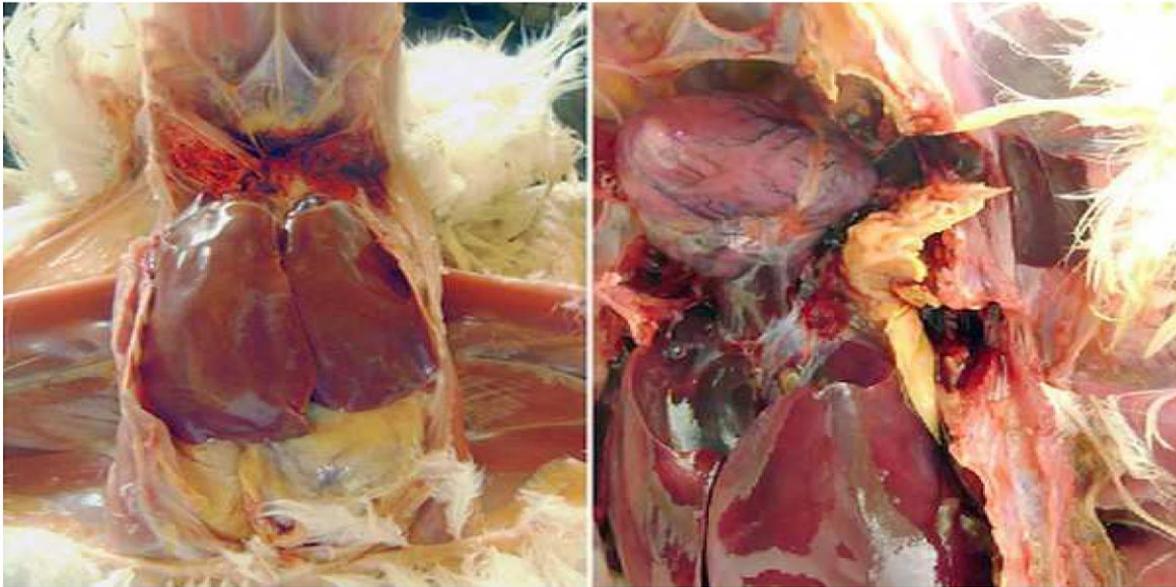


Photo N°3 The picture on the left shows a broiler breeder liver with remarkable congestion and hepatomegaly, collection of fibrin over the Glisson's capsule and a haemorrhagic organ at the right side edge.

In the picture on the right it is shown another chicken with evident hepatomegaly, collection of fibrin over the Glisson's capsule and a great cheesy-like bright yellow caseum mass over one of the air sacs.

