



Ornithobacterium rhinotracheale

Global distribution

Ornithobacterium rhinotracheale (ORT) has been identified worldwide and is known to cause severe respiratory and articular (turkeys) clinical signs. Infection is characterized by pneumonia and airsacculitis and can lead to considerable economic losses in poultry and turkey production.

Agent

ORT is a pleomorphic, gram-negative, rod-shaped bacterium that was first characterized in South Africa. This bacterium needs specific growth conditions and culture might easily be contaminated by other bacteria.

18 serotypes have been described (A to R) : the most frequently found in broilers is serotype A (95%); serotypes A, B, D, F and E are more common in turkeys

ORT has also been isolated from a wide variety of wild birds.

Pathology

Direct and indirect horizontal transmission have been demonstrated and vertical transmission is rather assumed.

ORT is often associated to respiratory disease, growth retardation, mortality and decreased egg production.

Thus it seems that the severity of the clinical signs, the mortality and the duration of the disease might be related to the virulence of the strains as well as to environmental factors.

Clinical signs

Clinical signs are often non specific. They include nasal discharge, sneezing and coughing. The most seen lesions are rhinitis, tracheitis and consolidation of the lungs leading to the death of the affected birds. Arthritis and locomotion symptoms are also seen, especially in turkey breeders.

Diagnostic

Current laboratory diagnosis of ORT is often made by culturing the bacteria from tracheal swabs or organs. But ORT culture is tedious and often contaminated by fast growing bacteria or secondary infectious agents, and should be done at an early stage of the disease.

Because antibodies appears almost 5-7 days post infection and do not persist in the serum, serology do not appear to be the best diagnostic test.

Labofarm has implemented a real time PCR test for ORT detection. This test is specific and very sensitive and allows detection of ORT from tracheal swabs (together with avian mycoplasma) as well as from articular or joint samples.

The swabs can also be used together with PCR, for bacteria isolation with a view to an antibiotic sensitivity test.

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