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SOUTH PACIFIC COMMISSION

INFECTIOUS BRONCHITIS AND INFECTIOUS LARYNGOTRACHEITIS

Young bird showing difficulty in breathing associated with Infectious bronchitis.

Infectious bronchitis (IB) and infectious laryngotracheitis (ILT) are two respiratory diseases of poultry. They cause economic losses and are being seen more frequently as intensive production units become more widespread.

INFECTIOUS BRONCHITIS

IB is an acute respiratory disease caused by a virus. The disease is primarily a condition of intensively-reared poultry. It is characterised by high mortality in all ages and a severe drop in egg production in layer flocks.

One strain of IB which has been seen in the region is referred to as the 'nephritic form'; on post-mortem examination the changes are seen to be primarily affecting the kidneys.

Since 1990, reports of outbreaks of IB causing losses have been received from Fiji, French Polynesia, Kiribati, New Caledonia and Vanuatu. Serological surveys have indicated that the disease is also present in the Cook Islands, Federated States of Micronesia, Niue, Tonga and Papua New Guinea.

Infection

Birds become infected with IB via the respiratory route and, after a short incubation period of 18 to 36 hours, clinical signs develop. Because of the short incubation period it is common for the whole flock to appear to be affected simultaneously.

Clinical signs

Affected birds of all ages exhibit respiratory noises, including gasping, coughing and rales (air and mucous moving in the trachea). Nasal discharges are common, particularly in young birds. In some cases, the sinuses are seen to be swollen. Feed consumption declines with loss of appetite and birds appear to be listless.

In young chicks, losses can be severe (in some cases up to 60 per cent), although older birds with little immunity can also show high mortality. Adult birds exhibit a sharp drop in egg production and a high percentage of misshapen, rough or soft-shelled eggs with poor yolk and watery white formation.

Recovered birds remain out of production for long periods and in some cases never return to lay.

Post-mortem findings

On post-mortem, the trachea, nasal passages and sinuses are seen to contain a thick mucus. Plugs of cheese-like material may be found in the lower trachea and bronchi (the wind-pipes). The air-sacs are cloudy and may contain foamy fluid.

In the nephritic form of IB, which was seen in the region between 1990 and 1992, the major finding was pale, enlarged and swollen kidneys.

Differential diagnosis

In severe cases, the respiratory signs of IB can resemble those of Newcastle disease (ND), but IB differs from ND in that nervous symptoms are never present and flock mortality is usually lower.

Egg production drops with both diseases. Birds affected with Newcastle disease usually cease production entirely, whereas birds with IB rarely stop laying completely but only return to normal production levels slowly, if at all, after the outbreak.

Control

Vaccination readily produces immunity to IB. Different vaccination schedules are available, depending on local conditions, previous exposure and the immediate risk

of infection. Because of geographical variations in the different strains (viral serotypes) which cause infectious bronchitis, serotype-specific vaccines should be used for optimum results.

If IB becomes established within a unit, it is very difficult to control.

Treatment

Treatment is rarely of use and is usually non-specific and supportive. Electrolytes are reported to be of value in some cases.

INFECTIOUS LARYNGOTRACHEITIS

ILT can cause severe economic losses in poultry through a drop in egg production, reduced growth rates and, in some cases, high mortality. Losses are not as severe as those experienced with other respiratory diseases.

Results from surveys carried out in a number of countries indicate that the disease is present in Kiribati and Cook Islands, may be present in Tonga and is probably absent from the Federated States of Micronesia and Niue.

Infection

Infection is via the respiratory tract. Although the virus may be airborne or carried on fomites (equipment and clothing), infection usually follows direct contact with an infected bird or drinking contaminated water. Recovered birds remain as carriers.

Clinical signs

Infection spreads slowly, which is not the case with infectious bronchitis where all birds may exhibit symptoms simultaneously. The main signs are coughing, sneezing and difficulty in breathing, especially at night. Birds are generally depressed and are often seen to stretch the neck while trying to breath. Bloody mucus is coughed or sneezed out and birds may have a nasal discharge. In some cases the face and wattles may be swollen. The mortality is usually around 15 per cent.

Post-mortem findings

On post mortem the main finding is bloody mucus in the trachea, often with inflammation. In some cases a cheesy plug may be found in the windpipe. This can obstruct breathing and lead to death.

Differential diagnosis

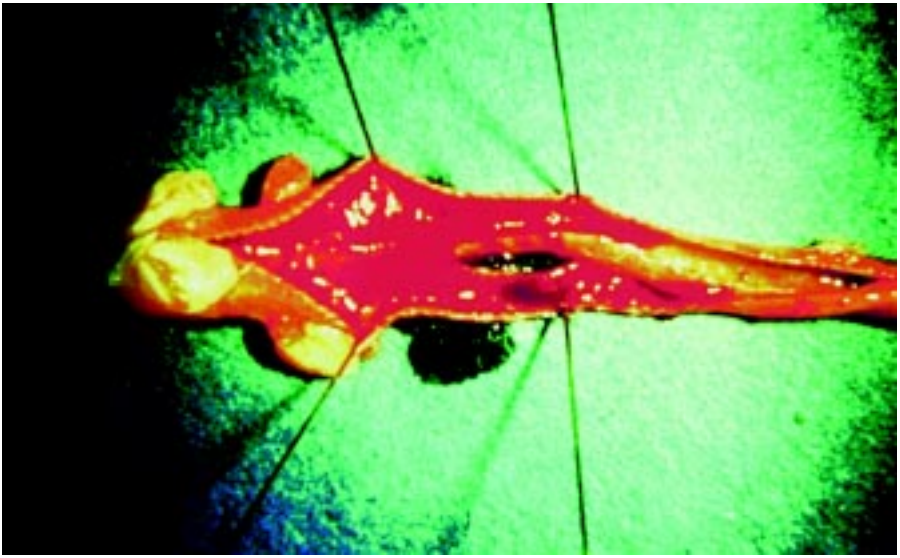
The onset of an outbreak of ILT may be difficult to differentiate from IB or other respiratory diseases of poultry. However, the relatively slow spread, plus the characteristic signs in the trachea, should make differentiation possible.

Control

Birds are usually vaccinated at 4 weeks of age with an attenuated vaccine and replacements are re-vaccinated at 16 to 20 weeks of age. Where vaccination is being practised in the face of a slow-spreading outbreak, birds can be vaccinated as young as 10 days. Movement controls, isolation and good hygiene are essential to prevent further spread.

Treatment

Apart from vaccination, which may shorten the course of an outbreak, there is no specific treatment for ILT.



Acute infectious laryngotracheitis. On post mortem the trachea contains blood.

Adult layers infected with infectious bronchitis produce a high percentage of misshapen or soft shelled eggs.

This leaflet was prepared by Peter Saville, Animal Health Adviser, South Pacific Commission, Suva, Fiji, from whom further information can be obtained. The photographs were provided by Solway Animal Health, Inc., 1201 Northland Drive, Mendota Heights, MN 55120-1149, USA.

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