University of Mosul
Lecture No.:
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Lecture title:

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Summary:

Infectious Coryza (Fowl Coryza)

Infectious coryza is known as **roup** or **contagious catarrh,** an acute, highly contagious disease of the upper respiratory tract of chickens,
The disease occurs worldwide and causes economic losses due to an increased culling rate in meat chickens and significant reduction of egg production in laying and breeding fowl.

Etiology

1-The disease is caused by *Haemophilus paragallinarum*.(***Avibacterium paragallinarum)***
2-The disease is limited to chickens. Chickens of all ages are susceptible but older birds tend to react more severely.
3-Avibacter paragallinarum Serotype A, B and C. Based on hemagglutinin serotyping, three serotypes (A, B and C) have been recognized.

Epizootiology (spread)

1)The chicken is the natural host although the disease has occasionally been diagnosed in pheasants. All ages of chicken are susceptible but birds up to 10 weeks are less vulnerable.
2) The chronic or healthy carrier birds serve as source of infection. Infection within farm occurs by contact with drinking water or feed contaminated by nasal discharge from sick/carrier chickens. To farms situated at a distance, infection is through air borne transmission.
3) The disease occurs more in cold and wet conditions. The more severe disease occurs when other respiratory diseases are prevalent at the farm.

PATHOGENESIS

1-Adherence of the organism to the ciliated mucosa of the upper respiratory tract seems to be the first step of the infection, As paragallinarum is a noninvasive bacterial agent with a strong tropism for ciliated cells and migrates into the lower respiratory tract (lungs, air sac) only after synergistic interaction with other infectious agents and/or if encouraged by immunosuppression.
2-Factors that predispose to more severe and prolonged disease (chronic respiratory disease) include intercurrent infections with microorganisms such as infectious bronchitis virus, laryngotracheitis virus, *Mycoplasma gallisepticum, Escherichia coli* or *Pasteurella spp*. and unfavourable environmental conditions.

Prdisposing facters:

Infectious Coryza is more likely to affect overcrowded farms with poor ventilation, dampness, unsanitary conditions, parasitic infestations, and insufficient feed supply,and immunosupresions disease

Clinical Signs and Gross Lesions

1. Rapid spread, high morbidity and low mortality characterize the disease.
2. Acute inflammation of the upper respiratory tract including involvement of nasalpassage and sinuses with a serous to mucoid nasal discharge, facial edema, swollen wattles particularly in males, and conjunctivitis.
3. In advanced cases where the disease has spread to trachea and air sacs, the respiratory rales are heard.
4.Rales may be heard in birds with infection of the lower respiratory tract with Pneumonia and airsacculitis when involvement of lower resp tract
5. A foul odour is present in the flocks, particularly when disease runs a chronic course.
6. Gross lesions include inflammation of nasal passages and sinuses and subcutaneous oedema of the face, wattles and around the eyes. Swelling of infra-orbital sinuses which cause closing of the eyes (Figure 20). Pus develops in the infraorbital sinuses

Diagnosis

1. A history of rapidly developing respiratory disease with coryza like clinical signs is suggestive of the diagnosis. For confirmation, isolation and identification of the organism are essential. Best specimen for culture is swab taken from the infraorbital sinus where organism is usually found in pure culture. Tracheal and air sac swabs can also be used for culture.
2. Tube agglutination, hemagglutination inhibition and fluorescent antibody tests, ELISA and PCR based molecular techniques are useful in diagnosis.
3. Confirmation could be made by inoculation of susceptible chicken into the sinuses with exudate or culture suspension. Coryza like clinical signs appears in 24-48 hours

Differential diagnosis: infectious coryza must be differentiated from CRD, chronic fowl cholera, fowl pox and Vitamin A deficiency which produce similar lesions.

Treatment

Sulfonamide and antibiotics are useful in checking the severity of the disease. No drug has been found bactericidal; hence, outbreaks recur after the treatment is discontinued and birds remain carriers.

Prevention and Control

Effective control measures include maintaining good sanitation and management practices and implementing an all-in and all-out program to break the transmission cycle and eradicate the bacteria. Vaccination with inactivated vaccines at 20 weeks of age is recommended**.**

Since recovered carrier birds are the main source of infection, starter birds should not be purchased from the infected flock. Once the outbreak has occurred in a flock, it is advisable to depopulate the flock