

Infectious Coryza

The Disease



Plan of Talk

- Introduction
- Etiology
- Transmission
- Clinical Disease
- Post mortem lesion
- Diagnosis
- Treatment
- Prevention

Plan of Talk

- **Introduction**
- Etiology
- Transmission
- Clinical Disease
- Post mortem lesion
- Diagnosis
- Treatment
- Prevention

Introduction

- The clinical syndrome has been recognized since the **1930s**.
- The disease occurs worldwide and causes economic losses due to:
 - Increased number of **culls in broilers**
 - Marked **drop in egg production in layers and breeders** (10% to more than 40%).
- **Multi-age farms** are more susceptible.

Cont. ...

- Infectious coryza is an acute to sub acute disease characterized by:
 1. Conjunctivitis
 2. Oculonasal discharge
 3. Swollen infraorbital sinuses
 4. Facial edema
 5. Sneezing
 6. Airsacculitis
- The disease appears to be more severe in birds over **14 weeks of age** (especially roosters)

Importance

In the Kurnool district of India, infectious coryza has been reported as the second most important bacterial disease associated with mortality after salmonellosis.



Cont. ...

A study in Morocco reported on **10 coryza outbreaks** that were associated with **drops in egg production of 14 - 41%** and mortalities of 0.7 to 10%.



Plan of Talk

- Introduction
- **Etiology**
- Transmission
- Clinical Disease
- Post mortem lesion
- Diagnosis
- Treatment
- Prevention

Etiology

- Infectious coryza is caused by bacterial agent (*Avibacterium Haemophilus paragallinarum*)
- Morbidity is high but mortality is low.

Cont. ...

***H. paragallinarum* survives for:**

- Several hours out of the host.
- 4 hours in water.
- 24 hours-exudates/tissues.

Plan of Talk

- Introduction
- Etiology
- **Transmission**
- Clinical Disease
- Post mortem lesion
- Diagnosis
- Treatment
- Prevention

Transmission

- The disease may be spread by **airborne** route on **high-density farms**.
- The bacterium survives 2-3 days outside the bird but is easily killed by heat, drying and disinfectants.
- The route of infection is **conjunctiva** or **nasal**.
- It is **not egg transmitted**.

Transmission / Carrier

1. Chickens that have recovered from the disease
2. Chronically sick chickens

Are carriers of the bacterium and are the main source of the infection.

Carriers are important with transmission via exudates and by direct contact.

Cont. ...

- On multiple ages farms, AIC occurs **1-6 weeks** after contact between susceptible chickens and carrier birds.
- People handling sick birds or dead birds may transmit the disease to susceptible healthy birds.
- Intercurrent respiratory viral and bacterial infections are predisposing factors.

Transmission

- **The incubation period of 1-3 days** followed by rapid onset of disease over **a 2-3 day period** with the whole flock affected within **10 days**, resulting in increased culling.

Plan of Talk

- Introduction
- Etiology
- Transmission
- **Clinical Disease**
- Post mortem lesion
- Diagnosis
- Treatment
- Prevention

Clinical Disease

- Infectious coryza may occur in broilers and layers.
- The most common clinical signs are:
 1. Nasal discharge
 2. Facial swelling
 3. Lacrimation
 4. Anorexia
 5. Diarrhea



conjunctivitis, infrorbital sinusitis



conjunctivitis, infrorbital sinusitis

Clinical Disease

Decreased feed and water consumption

1. **Retards growth** in young stock
2. **Reduces egg production** in laying flocks.

Unusual Clinical Disease

- The common different nature of infectious coryza when **complicated by other pathogens and stress factors** has been demonstrated by reports from countries such as Argentina, India, Morocco, and Thailand.

Cont. ...

- Unique clinical presentations such as **arthritis** and **septicemia**, presumably complicated by the presence of the other pathogens detected, such as ***Mycoplasma gallisepticum***, ***M. synoviae***, ***Pasteurella* spp.**, ***Salmonella* spp.**, and **infectious bronchitis virus**, have been found in broiler and layer flocks in Argentina.
- The isolation of *H. paragallinarum* from no respiratory sites such as the liver, kidney, and tarsus was reported for the first time in these outbreaks.

Clinical Signs

Uncomplicated coryza

1. Drop in egg production
2. Depression (especially in roosters)
3. Serous oculonasal discharge
4. Infraorbital sinuses become distended
5. Edema of wattles

Complicated coryza

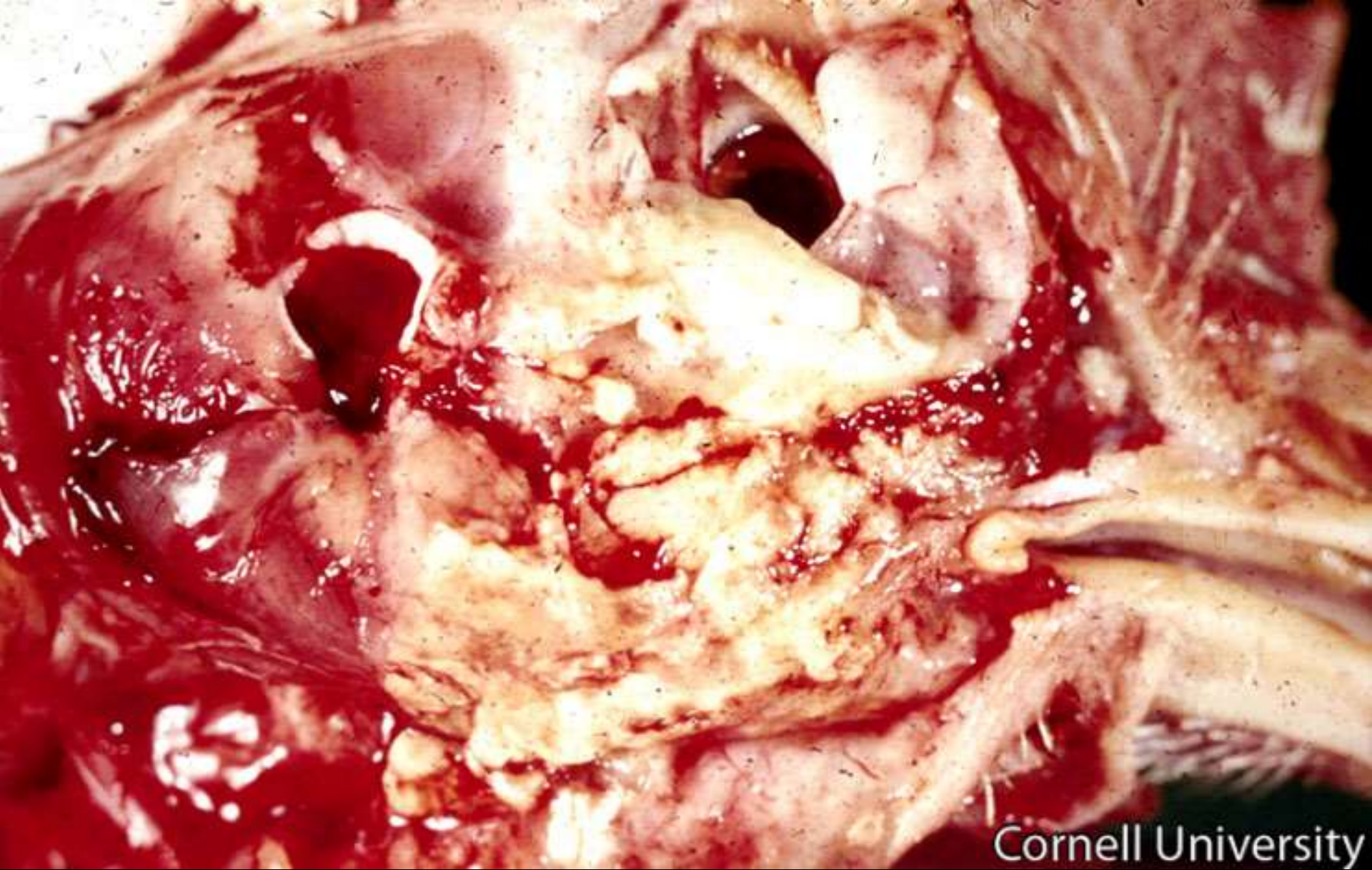
- Seen with concurrent Mycoplasma (MG or MS) infection
- Same as uncomplicated except that signs persist
 1. Continuous nasal discharge
 2. Gaseous plugs in nasal passages
 3. Rales
 4. Severe airsacculitis

Plan of Talk

- Introduction
- Etiology
- Transmission
- Clinical Disease
- **Post mortem lesion**
- Diagnosis
- Treatment
- Prevention

Post-mortem lesions

1. Catarrhal inflammation of nasal passages and sinuses.
2. Conjunctivitis.
- 3. Eye-lid adherence.**
- 4. Caseous material in conjunctiva/sinus.**
5. Tracheitis.



Cornell University

air sacs



conjunctiva, periorbital region



conjunctiva, head, infraorbital sinus, periorbital region, submandibular



conjunctiva, head, infraorbital sinus

Plan of Talk

- Introduction
- Etiology
- Transmission
- Clinical Disease
- Post mortem lesion
- **Diagnosis**
- Treatment
- Prevention

Diagnosis

A presumptive diagnosis may be made on:

1. Clinical signs.
2. Post mortem lesions.
3. Identification of the bacteria in a Gram-stained smear from sinus.

Differential Diagnosis

- Differentiate from Mycoplasmosis, respiratory viruses, chronic or localized pasteurellosis and vitamin A deficiency.

Plan of Talk

- Introduction
- Etiology
- Transmission
- Clinical Disease
- Post mortem lesion
- Diagnosis
- **Treatment**
- Prevention

Treatment

- ✓ Sulfonamide combination
- ✓ Sulfonamides with Trimethoprim
- ✓ Tetracyclines with Sulfonamides
- ✓ Streptomycin & Sulfonamids
- ✓ Macrolides / Quinolones

are bactericidal and might prevent carriers.

Plan of Talk

- Introduction
- Etiology
- Transmission
- Clinical Disease
- Post mortem lesion
- Diagnosis
- Treatment
- **Prevention**

Prevention

- Stock coryza-free birds on an all-in/all-out production policy.
- Bacterin at intervals, at least two doses are required, if;
 1. History justifies, high incidence areas.
 2. Multi-age.
- Commercial bacterins may not fully protect against all field strains but reduce the severity of reactions.

Cont. ...

- Live attenuated strains have been used, but are more risky.
- Controlled exposure has also been practiced.
- **Birds recovered from challenge of one sero-type are resistant to others, while bacterins only protect against homologous strains.**