Infectious Coryza
The Disease
Plan of Talk

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

- Infectious coryza is caused by bacterial agent (*Avibacterium Haemophilus paragallinarum*)
- Morbidity is high but mortality is low.
\textit{H. paragallinarum} survives for:

- Several hours out of the host.
- 4 hours in water.
- 24 hours-exudates/tissues.
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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.
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.
On multiple aged 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.
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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, infraborbital sinusitis
conjunctivitis, infraborbital 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.
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
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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.
air sacs
conjunctiva, periorbital region
conjunctiva, head, infraorbital sinus, periorbital region, submandibular
conjunctiva, head, infraorbital sinus
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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.
Differentiate from Mycoplasmosis, respiratory viruses, chronic or localized pasteurellosis and vitamin A deficiency.
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Treatment

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

are bactericidal and might prevent carriers.
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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.
- Commercial bacterins may not fully protect against all field strains but reduce the severity of reactions.
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.