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Infectious Coryza in Backyard Poultry: Clinical Presentation and Therapeutic Management

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★ Key message

- **Infectious coryza** is a highly contagious respiratory disease of chickens caused by *Avibacterium paragallinarum*, commonly affecting backyard poultry due to poor biosecurity and management practices.
- **Characteristic clinical signs** include facial edema, infraorbital sinus swelling, conjunctivitis, nasal discharge, open-mouth breathing, respiratory distress, and reduced feed intake.
- **Early diagnosis and prompt treatment** with appropriate antibiotics, supportive therapy, improved ventilation, and good husbandry practices are essential to minimize disease severity and losses.
- **Prevention and control** rely on strict biosecurity, vaccination, proper sanitation, stress reduction, and careful management of carrier birds to prevent recurrent outbreaks.

Abstract

Infectious coryza is an acute contagious upper respiratory disease of chickens caused by *Avibacterium paragallinarum*. The disease is characterized by facial edema, conjunctivitis, nasal discharge, respiratory distress, reduced feed intake and decline in productivity. Backyard poultry systems remain highly vulnerable because of poor biosecurity and delayed therapeutic intervention. The present article describes a clinically diagnosed field case of infectious coryza in a backyard chicken with characteristic lesions including infraorbital sinus swelling, conjunctivitis, facial edema, open-mouth breathing and greenish-white diarrhea. Clinical findings, pathogenesis, diagnosis and practical therapeutic management are discussed with photographic documentation from the field case.

Introduction

Infectious coryza is an economically important respiratory disease of chickens caused by *Avibacterium paragallinarum*, formerly known as *Haemophilus paragallinarum* (Blackall and Soriano, 2008). The disease primarily affects the upper respiratory tract and infraorbital sinuses, producing marked facial swelling, nasal discharge, conjunctivitis, and respiratory

distress. The disease is commonly encountered in backyard and smallholder poultry systems where poor ventilation, overcrowding, stress, and inadequate vaccination predispose birds to infection (Blackall *et al.*, 2005). Morbidity may reach 50–80%, while mortality generally remains low unless complicated by secondary bacterial infections.

According to the MSD Veterinary Manual, infectious coryza is characterized by “acute catarrhal inflammation of the upper respiratory tract associated with facial swelling and ocular discharge” (MSD Veterinary Manual, 2025).

Etiology

The etiological agent, *Avibacterium paragallinarum*, is a Gram-negative, non-motile, NAD-dependent coccobacillus. Three major serovars (A, B, and C) are recognized under the Page classification system and are important in vaccine selection (Blackall *et al.*, 2005). The organism survives poorly outside the host; therefore, chronically infected carrier birds play a major role in transmission and persistence of infection within poultry flocks.

Pathogenesis

Infection occurs through inhalation of contaminated droplets or direct contact with infected secretions. The organism colonizes the nasal mucosa and upper respiratory epithelium, causing inflammation and disruption of mucociliary clearance. Endotoxins and inflammatory mediators induce vasodilation and increased vascular permeability, resulting in facial edema and infraorbital sinus swelling (Sakamoto *et al.*, 2012). Progressive accumulation of serous to mucopurulent exudate produces conjunctivitis, nasal obstruction, respiratory sounds and open-mouth breathing. Secondary infections with *Escherichia coli* or *Mycoplasma gallisepticum* often aggravate lesions and increase severity of disease.

Clinical Presentation

The affected backyard chicken presented with:

- Severe unilateral facial edema
- Conjunctivitis and periocular swelling
- Infraorbital sinus enlargement
- Open-mouth breathing
- Respiratory distress and nasal blockage
- Depression and reduced feed intake
- Greenish to whitish diarrhea

Clinical observations recorded during examination included facial swelling, respiratory sounds,



Fig 1. Severe facial edema and closed eyes



Fig 2. Open mouth breathing



Fig 4. Pus in the sinuses



Fig 3. Marked infraorbital sinus swelling and conjunctivitis

Diagnosis

Diagnosis was primarily based on:

Sudden onset respiratory signs, characteristic facial swelling, infraorbital sinusitis, conjunctivitis, respiratory distress and nasal blockage and rapid progression within the flock.

The clinical findings strongly suggested infectious coryza. Similar lesions have been described by Blackall and Soriano (2008) and in the MSD Veterinary Manual.

Differential diagnoses considered included:

Chronic respiratory disease (*Mycoplasma gallisepticum*), Infectious bronchitis, Fowl cholera, Newcastle disease, Avian influenza and *Ornithobacterium rhinotracheale* infection.

Definitive diagnosis may be confirmed through bacterial isolation on NAD-enriched media or PCR assays.

Therapeutic Management

Antibiotic therapy reduces clinical severity but does not completely eliminate carrier status.

The affected bird received:

- Oxytetracycline
- Tylosin
- Anti-inflammatory therapy
- Oral supportive medications
- Vitamin and supportive supplementation

Therapeutic details recorded during treatment included injectable oxytetracycline and tylosin administration.

Supportive management included:

- Improvement of ventilation
- Reduction of environmental stress
- Maintenance of hydration
- Hygienic management of drinking water
- Nutritional support and vitamin supplementation

Prevention and Control

Successful prevention depends on:

- Strict biosecurity measures
- Isolation of newly introduced birds
- Proper ventilation
- Avoidance of overcrowding
- Vaccination using locally prevalent serovars
- Regular sanitation and disinfection
- Reduction of stress factors

Carrier birds should be identified and managed carefully to prevent recurrent outbreaks.

Conclusion

Infectious coryza remains a major respiratory disease of backyard poultry with considerable economic and welfare implications. The present field case demonstrated classical manifestations including facial edema, conjunctivitis, infraorbital sinus swelling, respiratory distress and reduced feed intake. Early clinical recognition, prompt supportive therapy, antimicrobial intervention and improved flock management are essential to reduce morbidity and prevent disease spread in backyard poultry systems.

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