AGRI MAGAZINE
(International E-Magazine for Agricultural Articles)
Volume: 03, Issue: 06 (June, 2026)
Available online at http://www.agrimagazine.in
©Agri Magazine, ISSN: 3048-8656

Bumblefoot (Pododermatitis) in a Backyard Rooster: A Case Report

*R. Suresh[1] and P. Rachana[2]
[1]Assistant Professor, Veterinary Clinical Complex, College of Veterinary Science, PVNRTVU, Korutla, Telangana, India
[2]Post Graduate Scholar, VMD, PVNRTVU, Rajendranagar, Telangana, India
*Corresponding Author's email: sureshrasamalla@gmail.com

Bumblefoot, also known as pododermatitis, is a common yet frequently neglected condition affecting backyard poultry worldwide. The disease results from trauma to the plantar surface of the foot, followed by bacterial invasion and chronic inflammation. A mature backyard rooster was presented with severe swelling and deformity of the right foot, causing marked lameness and impaired mobility. Clinical examination revealed chronic enlargement of the footpad and digits, consistent with advanced bumblefoot. Predisposing factors included poor litter hygiene, repeated mechanical trauma and prolonged exposure to contaminated surfaces. This case highlights the importance of early diagnosis, proper housing management and routine foot inspection in backyard poultry. Bumblefoot remains a significant welfare concern because untreated cases can progress to deep tissue infection, osteomyelitis and permanent disability.

Keywords: Bumblefoot, Pododermatitis, Backyard poultry, Rooster, Lameness, Staphylococcus aureus

Introduction

Backyard poultry farming has become increasingly popular due to its role in providing eggs, meat and supplementary household income. However, inadequate housing conditions and limited veterinary attention often predispose birds to preventable diseases. Among these, bumblefoot (pododermatitis) is one of the most commonly encountered disorders affecting the feet of chickens and other domestic birds (Harrison and Lightfoot, 2006). Bumblefoot is characterized by inflammation and infection of the plantar aspect of the foot, usually following trauma to the skin. Opportunistic bacteria, particularly *Staphylococcus aureus*, gain access through damaged tissues and establish chronic infection (Speer, 2015). If untreated, the condition may progress from a localized lesion to extensive involvement of tendons, joints and bones. This article describes a field case of bumblefoot observed in a backyard rooster and discusses its clinical significance, diagnosis, treatment and prevention.

Case Presentation

A mature backyard rooster was presented for examination with a history of progressive lameness and difficulty bearing weight on the right leg. The owner reported reduced activity and reluctance to walk over the previous several weeks.

Etiopathogenesis

Bumblefoot develops when repeated mechanical trauma damages the protective skin barrier of the footpad. Common sources of injury include rough perches, wire flooring, sharp objects, excessive jumping heights, obesity and poor litter conditions (Scanes, 2022). Once the skin is breached, bacteria enter the underlying tissues. *Staphylococcus aureus* is the pathogen most frequently isolated from lesions, although other opportunistic organisms may also be involved (Speer, 2015).

The disease progresses through several stages:
Foot Trauma → Skin Damage → Bacterial Invasion → Inflammation → Abscess Formation → Fibrosis → Chronic Pododermatitis
As the infection becomes chronic, necrotic tissue accumulates and forms a characteristic hard core or scab, often referred to as a "bumble."

Clinical Findings

Physical examination revealed marked unilateral swelling of the right foot involving the footpad and digits. The affected foot was enlarged and distorted, with abnormal flexion and deviation of the toes resulting in an altered stance. A firm, nodular swelling was present on the plantar surface, consistent with a chronic bumble lesion and the surrounding tissues appeared thickened due to longstanding inflammation. The lesion was painful upon palpation, and the bird showed reluctance to place full weight on the affected limb. Gait assessment revealed moderate to severe lameness characterized by shortened strides, reduced weight-bearing and difficulty in maintaining normal posture while standing and walking. No active discharge was observed at the time of examination. Despite the locomotor impairment, the rooster remained bright, alert and responsive, with a normal appetite and satisfactory body condition. Based on the history and characteristic gross lesions, a presumptive diagnosis of chronic bumblefoot (pododermatitis) was established.

Key Clinical Findings

- Marked swelling of the footpad and digits
- Abnormal flexion and deviation of toes
- Firm plantar nodule consistent with a bumble lesion
- Pain on palpation of the affected foot
- Reduced weight-bearing on the right limb
- Moderate to severe lameness
- Difficulty standing and walking normally

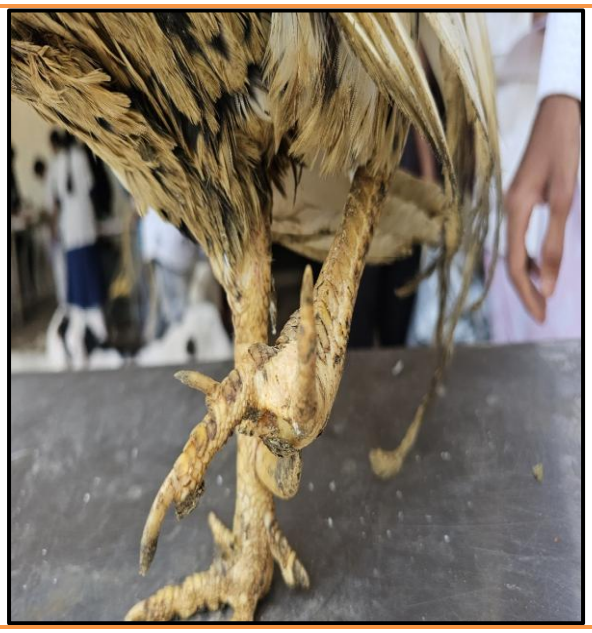

Fig. 1 Severe tarsometatarsal swelling – marked enlargement of the distal limb due to chronic inflammation.

Fig. 2 Abnormal stance (lamenic posture) – bird shifts weight to the unaffected limb due to pain.

Treatment and Management

1. **Debridement of lesion** – The plantar abscess was opened and the caseous (cheesy) core removed under aseptic conditions.
2. **Antiseptic wound care** – The foot was cleaned with **0.05% chlorhexidine** or **dilute povidone-iodine solution** and flushed thoroughly.

3. **Systemic antibiotic therapy** – **Enrofloxacin (5mg/kg PO, SID for 5–7 days)** was administered to control secondary bacterial infection.
4. **Topical medication** – **Povidone-iodine ointment** or a topical antibiotic ointment was applied to the lesion before bandaging.
5. **Bandaging** – The foot was padded and bandaged, with dressing changes performed every 2–3 days until healing occurred.
6. **Pain and inflammation control** – **Meloxicam (0.5 mg/kg PO, SID for 3–5 days)** was administered to reduce pain and inflammation.
7. **Environmental management** – The bird was maintained on clean, dry litter, and sharp objects and rough perches were removed to prevent recurrence.

Outcome

Clinical improvement – Progressive reduction in swelling and lameness was observed following treatment, with gradual improvement in weight-bearing and locomotion.

Discussion

- The present case represents an advanced stage of bumblefoot. The severe swelling and deformity observed suggest prolonged infection and chronic inflammatory changes.
- Backyard poultry are particularly susceptible because management practices may not prioritize foot health. Wet litter, inadequate sanitation, and poorly designed perches contribute significantly to disease occurrence (Harrison and Lightfoot, 2006).
- Clinical signs vary according to severity. Early lesions may appear as mild redness or swelling, whereas chronic cases show large abscesses, lameness, digit deformities and reduced mobility. In severe infections, bacteria may extend into deeper tissues, resulting in septic arthritis or osteomyelitis (Speer, 2015).
- Diagnosis is generally based on clinical examination and characteristic foot lesions. Bacterial culture and antimicrobial sensitivity testing can aid therapeutic decision-making, especially in refractory cases.
- Treatment depends on disease severity. Mild cases may respond to improved hygiene, antiseptic foot soaks, and topical antimicrobials. Advanced cases often require surgical debridement of necrotic tissue, bandaging, pain management and systemic antibiotic therapy under veterinary supervision.
- The prognosis is favorable when lesions are detected early; however, chronic cases may result in permanent lameness and reduced productivity.

Prevention and Control

Successful prevention relies on good husbandry practices:

- Maintain clean and dry litter.
- Remove sharp objects from poultry housing.
- Avoid abrasive or wire flooring.
- Provide appropriately designed perches.
- Prevent obesity through balanced nutrition.
- Inspect feet regularly for early lesions.
- Treat wounds promptly before infection develops.

Routine monitoring of foot health can substantially reduce the incidence of bumblefoot in backyard flocks.

Conclusion

Bumblefoot is a common but preventable disease of backyard poultry. The rooster described in this report exhibited severe chronic pododermatitis characterized by foot swelling, digit deformity and lameness. Early recognition of lesions, improved environmental management, and prompt treatment are essential for preventing progression to debilitating infection. Regular foot examinations should be incorporated into backyard flock health programs to improve animal welfare and productivity.

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