

Foot rot in cattle

Synonym: Bovine Interdigital Necrobacillosis

Etiology: *Fusobacterium necrophorum*.

Epidemiology:

The disease is common in all ages in most countries; usually the disease is sporadic and accounts for 5-15% of cases of lameness in dairy cattle. Transmission by Discharges from the feet of infected animals is the probable source of infection. This disease is seen most commonly during wet periods and under management conditions that cause abrasions between the claws (e.g., stones, rough ground, sharp objects).

Clinical signs:

- Severe foot lameness appears suddenly, usually in one limb only and may be accompanied with a fever.
- Swelling of the coronet and spreading of the claws are obvious
- The typical lesion occurs in the skin at the top of the interdigital cleft and takes the form of a fissure with swollen, the fissure is moist, red, swollen, and has a characteristic foul odor.
- The hind feet or all four feet may be affected if treatment is delayed and some animals may have to be destroyed because of local involvement of joints and tendon sheaths. In such cases the lameness is severe, the leg is usually carried and the animal strongly resents handling of the foot. Swelling is usually more obvious and extends up the back of the leg.

Pathogenesis:

any injury or constant wetting of the skin of the cleft which interferes with its integrity will allow the organism to invade the tissues. There is acute swelling and necrosis of the skin and SC tissues which may spread to adjacent tendon sheaths, joint capsules and bone if treatment is delayed or ineffective.

Necropsy Findings

Necropsy examinations are rarely carried out in cases of foot rot. Dermatitis is followed by necrosis of the skin and SC tissues. In complicated cases there may be suppuration in joints and tendon sheaths.

diagnosis

The diagnosis is based on history and clinical findings of a moist, red fissure in the Interdigital space.

D.D:

Differential diagnoses that are usually ruled out by clinical examination include:

- laminitis
- traumatic lesions
- stable foot rot.
- hoof growth abnormalities

Treatment

Immediate treatment as soon as possible after the onset of swelling and lameness will give excellent recovery in 2-4 d.

1. procaine penicillin G, 22 000 iu/kg BW.IM twice daily, or once daily for three consecutive days are effective .
2. Sodium sulfadimidine (150-200 mg/kg BW) solution given by IV injection is highly effective.
3. local treatment by applying a local anesthetic (xylazine)then The foot is scrubbed, all necrotic tissue curetted away and Any suitable antibacterial Ointment preparation may be applied and secured with a bandage, which may be left on for several days.

Prevention

- (1) Employ pasture modifications if possible (e.g., rotate pastures more often, fill mud holes, remove sharp objects).
- (2) With herd involvement, provide a foot bath of a 5%-10% solution of copper sulfate in an area where cattle must walk (e.g., doorway). Animals may try to drink the solution, so restrict access. Alternatively, dry lime may be used in a walkway box to coat feet and decrease moisture and bacterial proliferation.

Foot rot in sheep

Etiology: *bacteriodes nodosus*

Clinical signs

- **in sheep** ,foot rot is a highly contagious disease cause deep necrosis of tissue may lead to the shedding of the horn case. The separation may not be obvious on superficial visual examination but can be detected with a knife blade or by paring of the feet. There is a distinctive, foul-smelling exudates. A systemic reaction, manifest

by anorexia and fever, may occur in severe cases. Recumbent animals become emaciated and may die of starvation.

Pathogenesis

Maceration of the interdigital skin from prolonged wet conditions underfoot allows infection with *Fusobacterium necrophorum*. This initial local dermatitis associated with infection with *F. necrophorum* at the skin and the skin-horn junction may progress no further, but the hyperkeratosis induced this infection facilitates infection by *bacteriod nodosus* if it is present. The preliminary dermatitis has been named 'ovine interdigital dermatitis' and is also called 'foot scald'.

Necropsy finding of sheep for diagnosis of foot rot is not needed

Diagnosis

1. clinical signs
2. fluorescein-stained antibody can be used.
3. A highly sensitive polymerase chain reaction (PCR) can be used.
4. An ELISA for serological detection of infected sheep has some value for diagnosis of flock infection.

D.D

- Ulcerative dermatosis
- Strawberry foot rot
- Laminitis
- foot abscess
- Foot abscess
- Contagious echthyma
- Bluetongue
- Foot and mouth disease

Treatment

1. Foot bathing for treatment and control

The interdigital tissue should be cleaned, debrided, and with 5% copper sulfate it is recommended that the sheep be kept standing on concrete, on wooden slats, or on clean dry ground for a few hours after treatment

2. antibiotic treatment can use any one of the following :
 - Single IM dose of 70 000 U/kg procaine penicillin and 70 mg/kg dihydrostreptomycin
 - Erythromycin. Single IM dose of 10 mg/kg.
 - Long-acting oxytetracycline. Single IM dose of 20 mg/kg.

If animals do not respond to treatment within 3 days, it is NOT “just foot rot” and additional action should be taken.

Control:

Routine foot bathing, especially during transmission periods, coupled with vaccination can achieve this and sheep that are affected with severe lesion are treated with parenterally administered antibiotics or culled.