

Interdigital dermatitis (Stable foot rot, Slurry heel, Scald)

INTRODUCTION

- Interdigital dermatitis is a low-grade infection of the interdigital epidermis that causes a slow erosion of the skin with discomfort but no lameness unless the lesion becomes complicated.
- Morbidity is usually high in housed animals, particularly toward the end of the winter.
- The disease is most commonly seen when humidity is high, in temperate climates, and under poor hygienic conditions, especially in housed dairy cattle.
- When animals in such herds are examined, it is not unusual for 100% to have lesions of varying degrees of severity.
- In tied systems, the hind legs are affected more often than the fore legs.
- In loose housing systems, the distribution between fore and hindlegs is about equal.
- Animals on slatted floors are affected less often than animals on solid floors.

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ETIOLOGY

- Interdigital dermatitis is caused by a mixed bacterial infection,
- *Dichelobacter nodosus* has been considered to be the most active component.
- *D nodosus* is an anaerobe and exceptionally proteolytic.
- The source of the infection is the cow itself, and the infection spreads from infected to noninfected animals through the environment.
- *D nodosus* cannot survive for more than 4 days on the ground but can persist longer in filth that is caked onto the claws.
- The bacteria invade the epidermis, but the organisms do not penetrate to the dermal layers.
- As the condition progresses, the border between the skin and soft heel horn disintegrates, producing lesions similar to ulcers or erosions.
- At this stage, the lesions cause discomfort.

INTERDIGITAL DERMATITIS

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CLINICAL SIGNS

- The first stage of the condition appears to be an exudative dermatitis.
- The exudate oozes to the commissures of the interdigital space and forms a crust or scab, which may be observed occasionally on the dorsal surface of the digits.



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CLINICAL SIGNS

- As the condition progresses, the animal shows discomfort by “padding,” ie, constantly moving from one foot to the other.
- If the heels of the hind feet are especially painful, the limbs are held further back than normal.



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CLINICAL SIGNS

- True lameness does not develop until a complicating lesion is present.
- After a prolonged period, during which the animal has avoided bearing weight on the heel,
 - the horn beneath the heel increases in thickness and
 - some aberrations of gait result.



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TREATMENT

- Systemic therapy, including the use of antibiotics, is not effective.
- In severe cases, the lesions should be cleaned and dried, after which a topical bacteriostatic agent is applied, eg, a **50% mixture of sulfamethazine powder and anhydrous copper sulfate.**

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CONTROL

- Good management and housing systems to keep claws dry and clean are most important.
- Regular foot trimming helps avoid complications.
- Foot bathing,

Sole Ulcer (Pododermatitis circumscripta)

INTRODUCTION

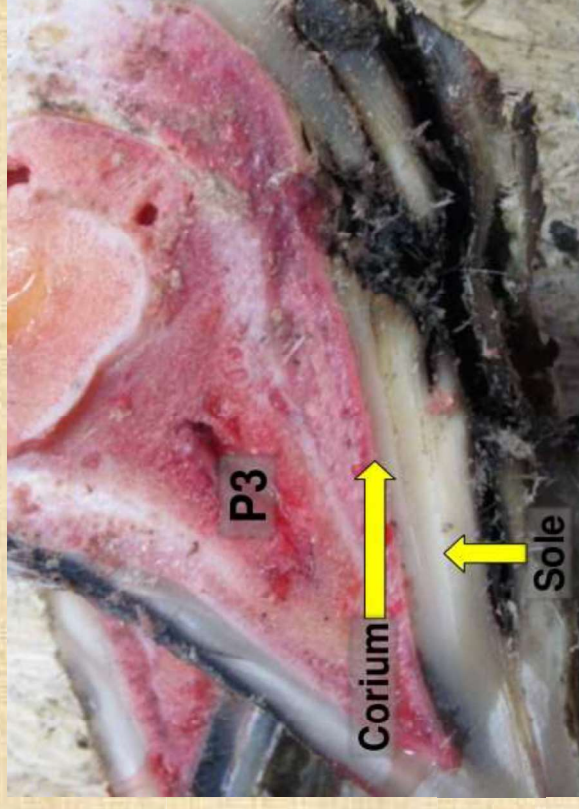
- Sole ulcers commonly affect one or both lateral hind claws.
- A sole ulcer is a circumscribed lesion located in the region of the sole/bulb junction, usually nearer the axial than abaxial margin.
- Damage to the dermis is associated with a circumscribed zone of localized hemorrhage and necrosis.
- The incidence is variable, but in some herds up to 50% of mature cows can be affected.



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Sole Ulcer (Pododermatitis circumscripta)

ETIOLOGY AND PATHOGENESIS

- Sinking of the claw, which is a feature of subclinical laminitis, is the major predisposing factor.
- Iatrogenic forms of the lesion are produced when inexperienced claw trimmers remove too much horn from beneath the heel, resulting in abnormal pressure on the dermis. Excessive wear of the softened sole horn flattens and thins the sole.
- Heel erosion. Normally, weight is borne by the bulb of the heel, but if heel erosion occurs, weight-bearing may be transferred forward to the region beneath the flexor process. Sometimes, a displaced pad of horn slips over to the vulnerable area, causing abnormal pressure over the flexor process of the distal phalanx.

Sole Ulcer (Pododermatitis circumscripta)

CLINICAL SIGNS

- The onset of lameness is generally sudden.
- Moderate degree of lameness.
- An obvious break in the integument may be apparent.
- heel horn exposes sensitive laminae
- granulation tissue may protrude through horn defect to form a cauliflower-or-rosette-like growth
- Severe lameness if granulation tissue protrudes and in cases with deeper purulent infection (osteomyelitis, septic arthritis)
- The presence of thin yellow pus indicates a deep septic pododermatitis



Sole Ulcer (Pododermatitis circumscripta)

TREATMENT

- trim horn and heel so that weight bearing by affected claw is minimal.
- Remove protruding granulation tissue and apply local caustic or tetracycline spray and bandage (waterproof) for 5 days.
- Broad-spectrum antibiotics for septic cases.
- Confine to box and straw bedding for 5 days.
- In complicated condition, amputation of the affected claw must be performed.