



Footwarts of Cattle

Papillomatous Digital Dermatitis

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During the past 10 years, footwarts has emerged as a serious problem in North America. In dairy cattle, the disease may cause widespread severe lameness, decreased milk yield, body weight loss, decreased reproductive performance, and increased veterinary expenses. Veterinarians in the U.S. recall seeing sporadic cases of similar lesions on the feet of cattle about 20 years ago, but the widespread, contagious nature of the emerging disease has been appreciated only in the past few years.

Although the precise cause of this wartlike disease is unknown, the authors have made significant progress in understanding the disease process. Below is an outline describing what is known about papillomatous digital dermatitis, commonly called footwarts.

Scientific Names

- Papillomatous Digital Dermatitis (US)
- Interdigital/Digital Papillomatosis (obsolete)
- Digital Dermatitis (UK, Europe)

Common Names

- Footwarts, Heel Warts, Hairy Footwarts
- Strawberry Foot Disease
- Raspberry Heel

Occurrence

- Throughout California
- Many other US areas; also Canada, Mexico, UK, Europe

Disease Situation

- Emerged in southern California in 1988
- Spreading geographically
- 90% of southern, 75% of central and 30% of northern California herds affected
- Costs \$5 million annually in California
- Up to 90% of cows in dry-lot herds may be affected

Causes

- Under investigation by UC Davis Task Force
- No virus detected
- 96% of footwarts have invasive spirochetes (spiral anaerobic bacteria)
- 95% of footwarts are highly responsive to antibiotics
- Environment may predispose (poorly drained lots, freestalls, abrasive soil/concrete)

Disease Characteristics

- First calf heifers most often affected
- Feet only, usually hind feet
- Severe lameness, walking on toes, clubbed hooves, loss of body weight, and decreased milk yield and fertility
- Little or no digital swelling (in contrast to "Footrot")

Lesion Characteristics

- Usually at back of foot near interdigital cleft/heel bulb
- Sometimes at front of foot, in the interdigital cleft or near dewclaws
- Early lesion: sharply demarcated, flat, dime-sized, round to oval, moist, tufted, strawberry-like surface
- Mature lesion: larger (up to 2" across), usually raised (up to golf-ball sized); sometimes with long brown/black tufts or hair-like, tissue projections on surface
- Long (true) hairs at edge of lesion
- Very painful and prone to bleeding, especially early lesions
- May persist for many months or may regress in dry weather

Treatment and Control

- Under investigation by UC Davis Task Force
- Contact your veterinarian for up-to-date information
- Cleansing plus topical application of antibiotics under a wrap are usually highly effective
- Treatment program should include non-lame affected animals
- Recurrent or new lesions may develop within 7-12 weeks of successful treatment in 50% of cows
- Autogenous footwart vaccines are ineffective
- Repetitive use of chemical or antibiotic foot spray is usually effective (consult your veterinarian)
- Manage corrals/free stalls so that feet are not continually wet
- Avoid caking of lower legs with manure-rich slurry
- Quarantine, examine and treat new arrivals, especially heifers

See back for Information on contact persons

For More information contact the following persons:

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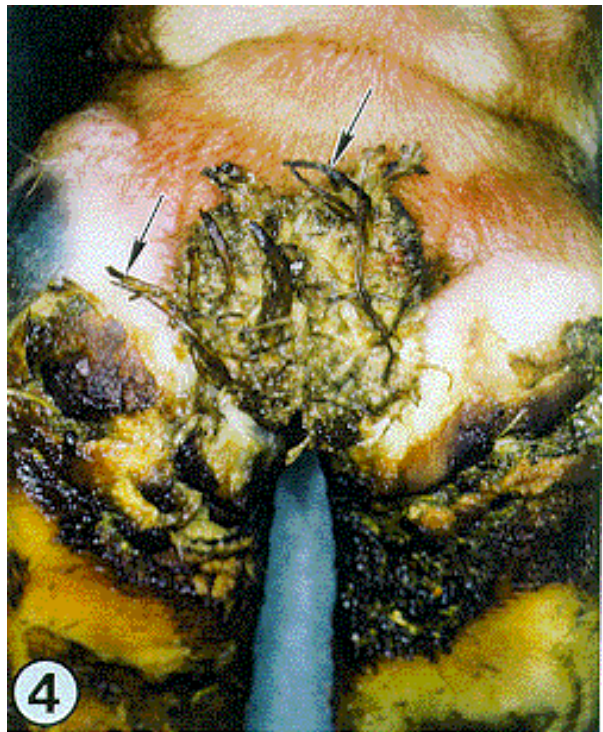
1. Early PDD: Flat red raw lesion with distinct margin involving skin-horn junction of heel near interdigital clef.



2. Intermediate PDD: Close view of flat ragged lesion with red raw areas, long hairs at margin and destruction of heel horn.



3. Mature PDD: Close view of raised lesions with early papillae formation (arrows).



4. Mature PDD: Raised lesion with advanced papillae formation (arrows).