

Ulcerative Lymphangitis

Synonyms: Pseudotuberculosis or Ulcerative Cellulitis, Pigeon Fever

Definition: It is mildly contagious chronic infectious disease of equine, caused by *Corynebacterium pseudotuberculosis*, characterized by lymphangitis of lower limb without involvement of regional lymph nodes draining the affected part.

Etiology: *C. pseudotuberculosis* or *C. ovis* alone or with other pyogenic infection cause similar lesions as *Staph* sp., *Strept* sp., *C. equi* and *pseudomonas*. *C. pseudotuberculosis* is facultative intracellular, gram positive rods.

Epidemiology:

Distribution: The disease is worldwide distributed including Middle East area.

Animal susceptibility: Horses, donkeys and mules.

Mode of transmission: Pus is the main source of infection. The bacteria probably enter via skin wounds including IM injections, arthropod vectors such as *Habronema* spp larva and stable flies, and contact with fomites such as contaminated tack and grooming equipment.

Seasonal incidence: Fall and summer

Pathogenesis:

- After infection of skin wounds or abrasion, *C. pseudotuberculosis* multiply and secrete exotoxins (Phospholipase D), invade lymphatic vessels usually of hind limbs starting at fetlock with abscess formation (papules or nodules) on the course of lymph vessels
- Abscess rupture cause ulcer and crust and formation of draining tracts
- lymph nodes involvement is unusual
- Abscess formation in muscles of chest and caudal abdominal region may be presented
- Abortion, renal abscess, debilitation and rarely death probably caused by septicemia.

Clinical signs:

1. Incubation period is long, morbidity and mortality are low, and course of the disease is 2-3 weeks up to 12 months.
2. The hind limbs from the hock downwards are the most common affected site.
3. The affected leg becomes swollen, hot and slightly painful.
4. These signs are usually associated with lameness and development of nodules in the subcutaneous tissues especially around the fetlock.

Characteristic of Lesions:

- Lesions are of different sizes and may be large 5-7 cm in diameter.

- These lesions may rupture discharging small amount of creamy green pus which may be blood-stained. Lesions might heal within 2-3 weeks.
- Occasionally, these lesions appear in other areas of the body such as inside the thighs, on the shoulders, or fore limbs and brisket region (Pigeon Fever).
- The lymphatic draining of the affected site becomes enlarged and hard with the development of secondary ulcers.

Diagnosis:

Field diagnosis: The disease can be suspected from history, clinical signs and epidemiology of the disease

Laboratory diagnosis: Samples: Pus, blood and serum.

1. Direct microscopic examination of pus smear, the organism is short gram-positive diphtheroid Chinese letter.
2. Isolation on blood agar, then the organism can be identifying by gram stain, biochemical tests and PCR.
3. Serological tests as toxin neutralization test, CFT and FAT.

Differential diagnosis:

The disease confused with pyoderma, abscesses, Glanders, Strangles, lymphangitis from other bacteria (eg, *Staphylococcus aureus*, *Rhodococcus equi*, *Streptococcus* spp, or *Dermatophilus* sp), dermatophytosis, sporotrichosis, equine cryptococcosis, North American blastomycosis, and onchocerciasis.

Prognosis: Nodules that do not affect deep tissue heal rapidly with simple treatment within 1-2 weeks. After complete recovery, outbreaks of new nodules may develop.

Treatment:

1. Abscesses should be lanced and flushed with iodine solution, large abscesses require surgery.
2. Skin lesions and grossly contaminated limbs must be scrubbed daily with an iodophor shampoo.
3. Penicillin or trimethoprim-sulfa combinations should be administered; however, antimicrobial treatment may prolong the disease by delaying abscess maturation.
4. Phenylbutazone relieves pain and swelling.

Control:

- It based on good hygiene in stables, careful manage of lower limb injuries or abrasions.
- Vaccination trials by bacterin-toxoid or recombinant vaccine are required.
- Flies and Nematodes eradication are required.