



EPIZOOTIC LYMPHANGITIS

Disease Name: Epizootic lymphangitis

Disease type: Epizootic lymphangitis is a contagious disease of the skin, lymphatic vessels and nodes of the limbs, neck and chest of horses and other equid species. It is caused by a fungus (*Histoplasma capsulatum* var *farciminosum*) and is responsible for chronic weight loss and progressive debility in affected animals. *H. capsulatum* var *farciminosum* can survive in dust and soil for extended periods of time, especially under warm moist conditions. It is highly resistant to the actions of physical and chemical agents. The disease occurs in warm, moist climatic conditions and spread by infected animals to horses closely congregated together, when there are large populations of biting flies and in climates with dust storms.

Transmission: Principal route of transmission of *H. capsulatum* var *farciminosum* is by entry through open wounds, broken or abraded skin. The source may be from infective discharge on the skin or from the environment. Indirect spread of infection can occur through the use of contaminated objects, e.g. harness, buckets, hands and apparel of handler, by mechanical transmission by biting flies, (*Musca* and *Stomoxys* spp.), that have fed on drainage from lesions or by Inhalation of fungal spores during dust storms.

Frequency: The disease is common in various parts of Africa, the Middle East, Russia, and Asia. It is presently not known to occur and is not reportable in the USA.

Incubation period: The incubation period is variable and can range from a few weeks to as long as six months.

Severity: The skin form has a mortality of 10-15%

Clinical signs

Four forms of epizootic lymphangitis are described. Two or more forms of the disease can occur concurrently in the same animal.

Skin form

- Most commonly encountered form of epizootic lymphangitis
- Following the introduction of the mycelial or yeast phase of the fungus through a wound, broken or abraded skin, the organism spreads via the lymphatics to the regional lymph nodes, in some cases involving the internal organs.
- The initial lesion is usually a chancre-like papule that develops along the course of a superficial lymphatic vessel, eventually becoming a pyogranulomatous nodule that ulcerates.
- The lesion undergoes alternate periods of discharging and partial healing before finally closing over with scar formation. It can take two to three months for this to occur.



- Although the commonest sites of lesions are the forelimbs, neck and chest, lesions may be distributed over the entire body in advanced cases of the disease.
- Severely affected equines exhibit anorexia, deterioration in condition and lameness in cases of joint involvement.
- Mortality rate is 10-15% depending on secondary bacterial infection

Ocular form

- Less frequently observed and very rarely becomes generalized
- Most common in donkeys
- Granulomatous proliferation of conjunctival sac that protrudes out of medial lacrimal puncta; this can lead to blockage of lacrimal duct
- Blepharospasm, conjunctivitis and ocular discharge
- Swelling of the eyelids
- Extension to periorbital tissues where it results in a granulomatous reaction
- Frequent complications in advanced cases, corneal ulceration, panophthalmitis and myiasis

Respiratory form

- Lesions usually confined to upper respiratory tract
- Papules/nodules develop on nasal mucosa; these ulcerate giving rise to granulating ulcers
- Lesions may extend to the trachea, bronchial tree and the lungs
- Mucopurulent nasal discharge, coughing and dyspnea in advanced cases of the disease
- **Diagnosis:** A provisional clinical diagnosis of epizootic lymphangitis is made by microscopic examination of pus preferably aspirated from an unruptured lesion or a biopsy sample from an affected lymph node or skin lesion. Culture can be attempted but it takes four to eight weeks for development of colonies. Serum agglutination test titers $\geq 1:80$ are considered positive for infection.

Specific control measures and biosecurity issues: Control of epizootic lymphangitis in countries in which the disease is not widely established is usually through elimination of infection by culling affected equids, and application of strict biosecurity measures to prevent spread of the disease. Owners need to realize the importance of cleaning and disinfection in reducing spread of the disease, and the significance of contaminated fomites in transmission of infection. Immunization through use of killed or live attenuated vaccines has had some success in endemic countries and in countries in which the disease is not endemic, suspect cases of epizootic lymphangitis should be tested and if confirmed infected, euthanized and strict biosecurity measures implemented to prevent establishment and spread in the environment.

Zoonotic concerns: Human infection with *H. capsulatum* var *farciminosum* is rare.