



Florida Leeches (Pythiosis)

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Pythiosis is an infectious disease caused by an organism (oomycete parasite) that lives in warm, aquatic environments called *Pythium insidiosum*. *Pythium* has been referred to as a fungal organism; however, this is incorrect as it lacks the physical characteristics that other fungal organisms have. In order to survive it requires water and organic debris such as vegetation while being maintained in warm temperatures of 30-40° C (86-104° F). Most cases in North America are seen in the Gulf Coast region of the United States. Multiple species can be affected such as humans, dogs, cats, and cows but horses seem to be the most susceptible.

The disease most commonly affects the skin and subcutaneous tissues of the abdomen and legs, but it may progress to involve other tissues such as bone and tendon or spread throughout the body to involve other organs such as the gastrointestinal tract. It has also been documented to occur in nasal tissue, external genitalia, and other areas of the body other than the abdomen and legs. Most horses present with a history of contact with water for an extended period of time. In order to gain access to the tissues most often there is a preexisting wound even though it may not have been noticed. Currently, there are not any documented predilections such as age, breed, or sex. The disease has also not been shown to be transmitted from one animal to another.

During the early course of the disease process affected horses will have areas of swelling with tracts draining exudative material. Once the disease has set in there is an area of granulation tissue, which can appear much like that of proud flesh. There are tracts present within the granulation tissue containing yellow, tan, or gray coral-like masses that are known as “kunkers”. These are made up of necrotic (dead) tissue, cells, and the *Pythium* organism. Most horses are severely pruritic (itchy) to the point that self-mutilation occurs. Without treatment the disease will progress and can do so rapidly resulting in death or humane euthanasia.

Diagnosis is made by history, clinical signs, and biopsy. Any horse that presents with a granulomatous lesion and has been in a moist environment should have Pythiosis on the differential diagnosis list. Biopsy results usually show characteristics of infections and granulomas, and occasionally the organism’s hyphae will be seen under the microscope. The lesion can appear like several other diseases as well such as cancer, habronemiasis (summer sores), or trauma/foreign body.

Treatment is very difficult and can take an extended period of time until resolution. Surgical removal is curative; however, removing all the infected tissue is sometimes very difficult due to the locations of lesions especially on the limbs where they tend to occur near important structures such as joints and tendons. Medications have been attempted with variable success. Most of the drugs used are antifungal medications and include ketoconazole, amphotericin b, sodium or potassium iodide, and fluconazole. These drugs have been tried in multiple ways from oral, to intravenous, to topical administration. The problem is that *Pythium* is not a true fungus and lacks the structures that these drugs interact with to kill the fungus. There are also vaccines on the market that are used in conjunction with surgical and medical therapies. The hope is to stimulate the horse’s own immune system to help fight the infection as well. However, the vaccines have not proven to provide any amount of long-term protection from the disease.

In conclusion, Pythiosis is a devastating disease that requires intense treatment and dedication to helping the horses affected. It is important to keep horses out of the moist areas where this organism lives especially if they have wounds that may come in contact with the organism. If you suspect your horse might have a lesion similar to Pythiosis contact your veterinarian as soon as possible.

Contact Brandon Equine Medical Center at 813-643-7177 or email info@brandonequine.com with any questions regarding this topic.

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