

BASIC INFORMATION

Description

Pythiosis is an uncommon infectious disease of dogs and cats. Most infections develop in dogs. Pythiosis occurs mainly in tropical and subtropical areas of the world. In the United States, it is present primarily along the Gulf of Mexico, mostly in southern Louisiana, Texas, Alabama, and Florida. Pythiosis has recently been reported in other eastern, western, and midwestern states.

Cause

Pythiosis is caused by *Pythium insidiosum*, which is related to fungi but not considered a true fungus. *Pythium* is found in warm water environments and enters the animal through damaged skin or mucous membranes, such as the lining of the nose, mouth, or stomach. The disease has three forms:

- The most common form of the disease occurs in the gastrointestinal (GI) tract of dogs. Any part of the GI tract may be affected, but the stomach and the upper small intestine are most commonly involved.
- Skin disease occurs less often in dogs and rarely in cats.
- Rarely, multiple organs can be affected in dogs.

Clinical Signs

Young, male, large-breed dogs are most likely to develop the GI form. Vomiting, weight loss, regurgitation, diarrhea, or bright red blood in the stools (hematochezia) may occur. Dogs usually remain bright and alert until late in the disease. Severe signs occur if intestinal obstruction or perforation develops.

Skin lesions may occur anywhere on the body and are slightly itchy nodules that may become ulcerated. Multiple holes or tracts in the skin may drain a clear or cloudy liquid. Animals with cutaneous pythiosis do not necessarily have involvement of other organs. Signs of nasal infection occur in cats with the skin form of the disease.

Diagnostic Tests

Pythiosis may be suspected in a young, large-breed dog living in an appropriate area with the clinical signs described. Sometimes, an abdominal mass may be felt by your veterinarian during the physical examination. Routine laboratory tests, abdominal x-rays, and an abdominal ultrasound are usually done when GI signs or a mass is present. Chest x-rays may also be recommended. These tests may reveal the following:

- The complete blood cell count and blood biochemistry profile may be normal.
- X-rays and ultrasound findings are variable. An abdominal mass may or may not be seen. An ultrasound may show thickening of the walls of the stomach or intestines.
- Chest x-rays may reveal megaesophagus (enlarged esophagus) resulting from esophagitis (inflammation of the lining of the esophagus).

The organism can be identified through microscopic examination of tissues removed from an affected animal by biopsy or sometimes by fine-needle aspiration. Special tests on the tissue may be necessary to find the organism. Culture of the organism may be tried. A test that measures antibodies to pythiosis in the blood of the animal (serology) can also be done to diagnose pythiosis.

TREATMENT AND FOLLOW-UP

Treatment Options

Surgical removal of localized infections is the preferred treatment. Most antifungal drugs are ineffective in treating the disease. When complete surgical removal cannot be accomplished, a combination of antifungal drugs (itraconazole and terbinafine) or intravenous amphotericin lipid complex (also an antifungal drug) can be tried. It may take several weeks to months of treatment before improvement is seen.

Follow-up Care

Resolution of clinical signs and weight gain are good signs. Repeated ultrasounds can be used to assess the size of any remaining abdominal masses. Serologic testing can be repeated after surgery to evaluate its effectiveness (antibody levels fall) and to monitor for recurrence of the disease (antibody levels rise again). Laboratory tests are frequently repeated throughout therapy to monitor for side effects of the medications. The frequency of recheck visits and repeated testing depends on the type and course of therapy used.

Prognosis

Prognosis is usually poor if complete surgical removal is not possible. Recurrence of disease is common.