

Pancreatitis in Dogs

Internal Medicine Service



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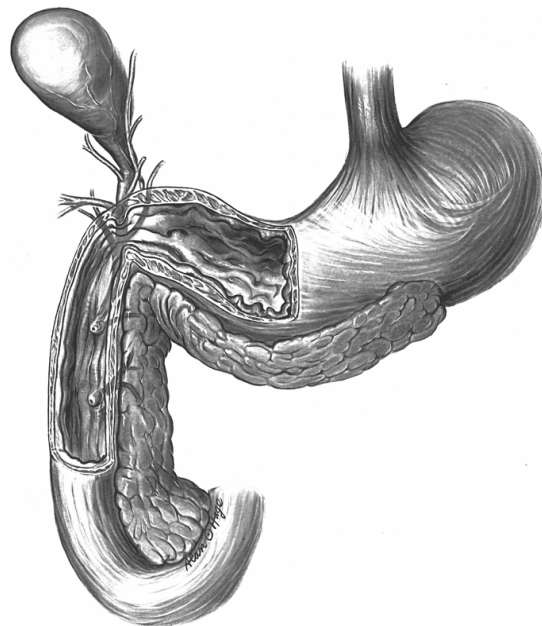
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What is Pancreatitis?

The pancreas is a gland within the abdomen located along the stomach and the first part of the small intestine which performs both endocrine and exocrine functions. The endocrine function of the pancreas includes the production of insulin, which is secreted into the blood in response to carbohydrate and protein ingestion. The exocrine function involves the secretion of inactive digestive enzymes and bicarbonate into the intestine. These substances are released into the intestine, where they become activated, to help break down ingested foodstuffs.

Pancreatitis refers to inflammation of the pancreas, and is caused by activation of the digestive enzymes within the pancreas itself due to pancreatic damage or blockage of its outflow duct. This results in pancreatic auto-digestion, whereby the enzymes destroy the pancreatic tissue. Acute pancreatitis is defined as reversible pancreatic inflammation, while permanent changes occur in the pancreatic tissue in chronic pancreatitis. These two forms of pancreatitis cannot be differentiated clinically, although clinical signs in acute pancreatitis are usually more severe than those seen with chronic pancreatitis. Acute pancreatitis can lead swiftly to systemic inflammation, shock, and death, and must be treated aggressively.



Cause

The cause of pancreatitis is usually unknown, although dietary factors, particularly high fat diets, hereditary disorders associated with fat metabolism, medications, prior surgery, obesity, trauma, cancer, obstruction of the pancreatic outflow tract because of biliary stones, inflammation, or masses have all been associated with the development of pancreatitis.

Diagnosis

Clinical signs of pancreatitis in dogs usually some or all of the following: vomiting, anorexia, depression, abdominal pain, and diarrhea. In severe cases, dogs may be recumbent and in shock.

Diagnostics that may be recommended include abdominal radiographs (x-rays), ultrasound, bloodwork including a complete blood count (CBC) and biochemical profile, urinalysis, urine culture, and a canine pancreatic lipase immunoreactivity (cPLI) test. Radiographs are usually not very helpful in establishing a diagnosis of pancreatitis, but are important in ruling out other causes of disease. Abdominal ultrasound can be very specific in identifying pancreatitis, but the pancreas may appear normal in up to 32% of dogs with pancreatic inflammation. Bloodwork can be normal or demonstrate diseases of other organ systems either unrelated to or caused by the pancreatitis. The cPLI test is a highly accurate test in diagnosing pancreatitis, however, the presence of an abnormal cPLI test does not definitely rule in pancreatitis as the sole cause of the clinical signs. This is an important concept, as resolution of the pancreatitis may not lead to resolution of the clinical signs.

Currently, the combination of the above tests is usually recommended to obtain a presumptive diagnosis of pancreatitis. The only definitive way to diagnose pancreatitis is to obtain a biopsy via surgery or laparoscopy, although many times the patient is too unstable to undergo anesthesia.

Pancreatitis in Dogs Continued...

Treatment

Treatment is truly supportive in nature, and its aggressiveness depends on the severity of the pancreatitis. In severe cases, hospitalization is required for restoration and maintenance of hydration, control of pain and vomiting, nutritional support, and possibly antibiotic administration. If the patient is vomiting, food and water are withheld, otherwise, an ultra-low-fat diet can be offered. The use of very low-fat diets in dogs is to decrease the workload on the pancreas.

In less severe chronic cases, hospitalization may not be required if the patient is hydrated and not vomiting. An extremely low-fat diet will be recommended for home use, as well as regular monitoring of bloodwork such as the cPLI and/or abdominal ultrasound.

Prognosis

Prognosis is dependent on severity of clinical signs, degree of pancreatic tissue damage, duration of illness, and the presence of concurrent disease. In uncomplicated cases, continuous use of a low-fat diet may prevent any future recurrences of pancreatitis. Conversely, some dogs will experience repeated bouts of pancreatitis which will progress to chronic pancreatic changes and persistent disease accompanied by unrelenting clinical signs. As mentioned, an acute severe episode of pancreatitis can quickly lead to shock and death if aggressive treatment is not started promptly. Unfortunately, even with aggressive treatment, some patients may still die.

Because of the complexity in diagnosis and unpredictability of response to treatment, suggesting a prognosis is difficult. In severe cases, hospitalization may be required for several weeks before the patient is stable enough to be discharged.



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