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Acute Pancreatitis in Dogs

Pancreatitis is defined as inflammation of the pancreas. The vast majority of cases are a result of sterile inflammation although secondary infections of the pancreas can occur. The normal function of the pancreas is production of insulin and digestive enzymes. When pancreatitis occurs, the digestive enzymes are released locally into the pancreatic tissue and the surrounding tissues within the abdominal cavity. Additionally, some of these digestive enzymes and other factors are released systemically into the bloodstream. Normally, there are a series of inherent defense mechanisms that prevent this from occurring, however, these become overwhelmed once pancreatitis develops.

The most common cause of pancreatitis in dogs is the ingestion of a meal high in fat. This can be a one-time occurrence due to a dietary indiscretion or be a cumulative development in at-risk individuals. Concurrent diseases such as hyperlipidemia (high serum triglycerides) may predispose individuals to pancreatitis.

Clinical signs of pancreatitis include inappetence, lethargy, fever, abdominal pain, vomiting and diarrhea. Systemic manifestations such as systemic inflammatory response syndrome may lead to multiple life-threatening complications within the lungs, clotting system, and liver and kidneys. Labwork findings include elevated white blood cell counts, elevated liver enzymes, electrolyte abnormalities from vomiting, and an array of other non-specific abnormalities.

Diagnosis of pancreatitis can be difficult as no one test is definitive. History, clinical signs, and physical examination findings help the doctor to develop an index of suspicion for pancreatitis. Labwork findings as above help to narrow the differential list. Unfortunately, the common pancreatic enzymes on routine labwork, amylase and lipase, are only approximately 50% sensitive and specific for pancreatitis in dogs. Therefore, to confirm the diagnosis, imaging of the pancreas with ultrasound is recommended. Ultrasound has been reported to be approximately 70% sensitive for detecting an abnormal-appearing pancreas in the dog. In our experience, the sensitivity is probably a bit higher. Confirmation with a blood test called canine pancreatic lipase immunoreactivity (CPLI) is recommended as this test is thought to be approximately 90% sensitive and specific.

Treatment of pancreatitis should be aggressive as life-threatening consequences can occur rapidly. The sooner therapy is instituted, the more likely a complete recovery can be made. Intravenous fluid therapy is used to treat and prevent dehydration, support the kidneys, and address and prevent electrolyte imbalances. Dopamine or dobutamine, medications delivered intravenously as a constant rate infusion, help raise blood pressure and may help to stimulate blood flow to the pancreas increasing the ability of the pancreas to heal. Intravenous antibiotics are used to prevent bacterial translocation of the normal gastrointestinal flora into the bloodstream. Fresh frozen plasma is recommended to supply clotting factors and provide the “anti-enzymes” (normal defense mechanisms) overwhelmed by the pancreatic inflammation. Anti-nausea medication and antacid therapy is used to help the patient feel better and pain medication is used because our pets have a hard time telling us when they hurt.

Prognosis for pancreatitis improves with diligent, immediate care and depends upon the number of complications the patient presents with or develops despite appropriate care. Long-term fat restricted diets are recommended for patients developing pancreatitis to prevent recurrence. Recurrent episodes of acute pancreatitis may occur without strict adherence to dietary recommendations.