

Pancreatitis—Cats

(Inflammation of the Pancreas)

Basics

OVERVIEW

- The pancreas is an organ of the body, located near the upper small intestine; the pancreas produces insulin to regulate blood sugar and produces digestive enzymes involved in digestion of starches, fats, and proteins in the animal's diet; the digestive enzymes are delivered to the upper small intestine through the pancreatic duct
- “Pancreatitis” is inflammation of the pancreas; most often no known cause
- Sudden (acute) pancreatitis—inflammation of the pancreas that occurs abruptly, with little or no permanent damage to the pancreas
- Long-term (chronic) pancreatitis—continuing inflammation of the pancreas that is accompanied by irreversible damage to the pancreas (scarring)
- The most common changes involving the cat pancreas include acute necrotizing pancreatitis (ANP) and acute suppurative pancreatitis (ASP)
- “Acute suppurative pancreatitis” is characterized by inflammation with neutrophils (a type of white blood cells); suppurative refers to forming pus
- “Necrotizing pancreatitis” is inflammation of the pancreas characterized by bleeding (hemorrhage) and areas of death of tissues (known as “necrosis,” thus the name “necrotizing pancreatitis”); it usually is a severe and prolonged disease and affected cats may die



SIGNALMENT/DESCRIPTION OF PET

Species

- Cats

Breed Predispositions

- Siamese cat

Mean Age and Range

- Mean age for sudden (acute) pancreatitis in cats is 7.3 years

Predominant Sex

- None

SIGNS/OBSERVED CHANGES IN THE PET

- Vague, non-specific signs that generally do not localize the problem to the pancreas
- Sluggishness (lethargy), depression, lack of appetite (known as “anorexia”)
- Vomiting

- Diarrhea—more frequently seen in dogs than in cats
- Weight loss—common in cats
- Abdominal pain
- Weakness
- Yellowish discoloration to gums and moist tissues of the body (known as “jaundice” or “icterus”)
- Dehydration—common; due to digestive system losses of fluid
- Mass lesions may be felt during physical examination
- Fever—reported in 25% of cats
- Less common system-wide abnormalities include severe breathing difficulties (known as “respiratory distress”), bleeding disorders, and irregular heartbeats (known as “cardiac arrhythmias”)

CAUSES

Usually unknown; possibilities include the following:

- Nutritional factors: excessive weight?
- Pancreatic trauma or lack of blood flow (known as “ischemia”)
- Duodenal reflux (a condition in which contents in the upper small intestine (duodenum) move backward)
- Drugs or toxins (organophosphates)
- Pancreatic duct blockage or obstruction
- High levels of calcium in the blood (known as “hypercalcemia”)
- Extension of inflammation from the liver and bile duct system or intestines, and degenerative liver disease (fatty liver, or hepatic lipidosis)
- Inflammatory bowel disease

RISK FACTORS

- Breed—Siamese
- Obesity?
- Recent exposure to certain drugs (organophosphate poisoning)
- Liver (hepatic) or digestive tract inflammation

Treatment

HEALTH CARE

- Inpatient medical management most often
- Aggressive intravenous (IV) fluid therapy
- Fluid therapy goals—correct low circulating blood volume (known as “hypovolemia”) and maintain pancreatic blood circulation
- A balanced electrolyte solution such as lactated Ringer’s solution (LRS) is the first choice for providing hydration
- May need colloids; colloids are fluids that contain larger molecules that stay within the circulating blood to help maintain circulating blood volume, examples are oxyglobin and hetastarch
- Following replacement of fluid deficits, the veterinarian will give additional fluids to match maintenance requirements and ongoing losses
- Potassium chloride (KCl) supplementation usually is needed, because potassium is lost from the body in the vomit

ACTIVITY

- Restrict

DIET

- The veterinarian will feed by mouth, unless vomiting is not controlled; feeding maintains the integrity of the intestinal lining and minimizes bacterial invasion from the intestines and into the body
- They will withhold all food and water by mouth (known as “NPO”) in pets with persistent vomiting for the shortest time possible; when no vomiting has occurred for 12 hours, they will offer small volumes of water; if tolerated, then begin small, frequent feedings

- One should avoid high-protein and high-fat diets, but excessive fat restriction is not necessary in cats
- Pets needing extended time without food and water by mouth (NPO) may require tube feeding into the gut or intravenous feeding (known as “total parenteral nutrition”), nasal (known as “nasoesophageal tube”) or esophagus (known as “esophagostomy tube”) or stomach (known as “gastrostomy tubes”) can be used for alternate feeding options

SURGERY

- May need surgery to remove localized accumulations of fluid (known as “pseudocysts”), abscesses, or areas of dead (necrotic) tissue seen with necrotizing pancreatitis (inflammation of the pancreas characterized by bleeding and areas of death of tissues)
- May need surgical exploration of the abdomen and biopsy of the pancreas to confirm pancreatitis and/or to rule out other diseases not involving the pancreas
- Bile duct blockage outside of the liver (known as “extrahepatic biliary obstruction”) from pancreatitis requires surgical correction

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all-inclusive

- Drugs that act on the vomiting center of the brain to control nausea and vomiting (known as “centrally acting antiemetics”) are indicated with vomiting that is difficult to control—ondansetron, chlorpromazine are examples
- Maropitant—medication to control nausea and vomiting
- Antibiotics, given if evidence of sepsis (presence of pus-forming bacteria and their poisons in the blood or tissues)—cefotaxime is an example
- Pain relievers (known as “analgesics”) to relieve abdominal pain, such as buprenorphine or fentanyl

Follow-Up Care

PATIENT MONITORING

- The veterinarian will evaluate hydration status closely during first 24 hours of therapy; twice daily check physical examination; body weight; packed cell volume (PCV, a means of measuring the percentage volume of red blood cells as compared to the fluid volume of blood) and total solids (a quick laboratory test that provides general information on the level of protein in the fluid portion of the blood); and blood urea nitrogen (BUN) and urine output to monitor the kidneys and hydration status
- The pet will be watched closely for complications involving a variety of organ systems; performing appropriate diagnostic tests as needed
- Gradually taper fluids down to maintenance requirements, if possible
- Maintain feeding by mouth, enteral, parenteral as needed (see above), with diet not containing excess fat

PREVENTIONS AND AVOIDANCE

- Weight reduction, if obese
- Avoid high-fat diets

POSSIBLE COMPLICATIONS

- Failed response to supportive therapy
- Life-threatening associated conditions including respiratory distress, heart rhythm disturbances, blood coagulation disorders, abdomen cavity infection (known as “peritonitis”), diabetes mellitus, pancreas enzyme deficiency (known as “exocrine pancreatic insufficiency”), fatty liver (known as “hepatic lipidosis”)
- Progression of acute to chronic pancreatitis

EXPECTED COURSE AND PROGNOSIS

- Guarded for most cats with acute necrotizing pancreatitis, multi-organ inflammation lowers the prognosis
- More guarded to poor for pets with severe necrotizing pancreatitis, and concurrent system-wide complications or conditions

Key Points

- Sudden (acute) pancreatitis—inflammation of the pancreas that occurs abruptly, with little or no permanent damage to the pancreas
- Long-term (chronic) pancreatitis—continuing inflammation of the pancreas that is accompanied by irreversible damage to the pancreas
- Need for extended hospitalization
- Diagnosis and treatment can be expensive
- Possible complications include lack of response to supportive therapy and life-threatening conditions

Blackwell's Five-Minute Veterinary Consult: Canine and Feline, Sixth Edition, Larry P. Tilley and Francis W.K. Smith, Jr. © 2015 John Wiley & Sons, Inc.