Pancreatitis in cats and dogs

Database: CAB Abstracts <2000 to 2013 Week 33>
Search Strategy:

1. (dogs or canine or cats or feline).mp. [mp=abstract, title, original title, broad terms, heading words] (91131)
2. pancreatitis.mp. [mp=abstract, title, original title, broad terms, heading words] (1745)
3. 1 and 2 (545)

Accession Number 20133229514
Author Schaafsma, I.; Bradley, K.; Denning, A.; Barett, E.
Title Clinical forum: canine pancreatitis and biliary duct obstruction. Part 2: The radiologist's perspective.
Publisher UK Vet Publications
Location of Publisher Newbury
Country of Publication UK
Abstract This clinical forum will review pancreatic disease in dogs, primarily focusing on those patients that go on to develop obstruction of the biliary tree. A series of commonly asked questions relating to pancreatitis and concurrent biliary tract obstruction will be asked of a panel of specialists with varying views expressed! In the August 2013 issue of Companion Animal, a further article on this topic will be published giving both a surgeon's perspective on canine pancreatitis and biliary duct obstruction.

Accession Number 20133225551
Author Neath, P.
Title Pancreatic surgery - what is feasible in general practice?
Publisher North American Veterinary Conference
Location of Publisher Gainesville
Country of Publication USA
Surgery for extrahepatic bile duct obstruction in cats: an internist's perspective.


To feed or not to feed: update on the management of canine pancreatitis.


Serum feline-specific pancreatic lipase immunoreactivity concentrations and abdominal ultrasonographic findings in cats with trauma resulting from high-rise syndrome.

Source: Journal of the American Veterinary Medical Association; 2013. 242(9):1238-1243. 29 ref.
measurement of serum fPLI concentration within 12 hours after the fall and at 24, 48, and 72 hours after the first blood collection. Pancreatitis was diagnosed in cats with an fPLI concentration >5.4 micro g/L. Each cat had abdominal ultrasonography performed twice 48 hours apart, and pancreatic trauma was assessed via detection of pancreatic enlargement, hypoechoic or heteroechoic pancreatic parenchyma, hyperechoic mesentery, and peritoneal effusion. Cats were assigned 1 point for each abnormality present, and a cumulative score >=3 was considered suggestive of traumatic pancreatitis.

Results - Traumatic pancreatitis was diagnosed in 9 and 8 cats on the basis of serum fPLI concentration and ultrasonographic findings, respectively. For cats with pancreatitis, fPLI concentration was significantly higher at 12 and 24 hours after the fall than at 48 and 72 hours after the fall, and serum fPLI concentration decreased as time after the fall increased. Significant agreement existed between the use of serum fPLI concentration and abdominal ultrasonography for the diagnosis of traumatic pancreatitis.

Conclusions and Clinical Relevance - Cats with high-rise syndrome often had serum fPLI concentrations >5.4 micro g/L within 12 hours after the fall, and concurrent evaluation of those cats via abdominal ultrasonography twice, 48 hours apart, improved detection of traumatic pancreatitis.
Cholangiohepatitis/cholangitis is second only to hepatic lipidosis as the most common liver disease in cats and is often associated with concurrent pancreatitis. Magnetic resonance imaging (MRI) and MR cholangiopancreatography (MRCP) have developed into an accurate, highly sensitive and specific imaging tool for the diagnosis of biliary and pancreatic duct disorders in humans. In this prospective case series, 10 cats with suspected cholangitis and/or pancreatitis were enrolled based on clinical history, physical examination and appropriate diagnostic test results. MRI and MRCP sequences with secretin stimulation of the cranial abdomen were performed, and sonography and laparoscopic biopsies for histologic diagnosis were obtained for comparison. MRI detected pancreatic abnormalities in cats suspected of pancreatitis, including T1 pre-contrast hypointense and T2 hyperintense pancreatic parenchyma and a dilated pancreatic duct. The MRI findings of the liver were non-specific. Nine of 10 cats had biliary abnormalities, including gall bladder wall thickening, wall moderate contrast enhancement and/or gall bladder debris. Eight of 10 cats had histologic evidence of pancreatitis, as well as hepatitis or cholangitis, with one cat diagnosed with hepatic lymphoma. The advantages of MRI/MRCP over sonography of these cats included the striking pancreatic signal changes associated with pancreatitis and the ability to comprehensibly assess and measure the pancreas and hepatobiliary structures without operator dependence or interference from bowel gas. MRI/MRCP imaging of the feline abdomen may be beneficial in cases with equivocal ultrasound imaging findings.

Pancreatitis is an important potential cause and complicating factor in cases of diabetes mellitus. Pancreatitis can lead to development of diabetes mellitus, which may be transient (diabetic remission) or permanent through destruction and loss of beta cells. Pancreatitis can also be a complicating factor in management of diabetic cats by exacerbating or inducing peripheral insulin resistance, particularly at times of intensified pancreatic inflammation. Pancreatitis is commonly associated with other inflammatory conditions - especially inflammatory bowel disease and cholangiohepatitis - and its presence makes management of diabetes mellitus more challenging.
Title
Chronic pancreatitis in dogs: a retrospective study of clinical, clinicopathological, and histopathological findings in 61 cases.
Source
Publisher
Elsevier Ltd
Location of Publisher
Oxford
Country of Publication
UK
Abstract
The objective of this study was to characterize the clinical, clinicopathological, and histopathological findings of dogs with chronic pancreatitis. The necropsy database at Texas A&M University was searched for reports of dogs with histological evidence of chronic pancreatitis defined as irreversible histologic changes of the pancreas (i.e. fibrosis or atrophy). A reference necropsy population of 100 randomly selected dogs was used for signalment and concurrent disease comparisons. Cases were categorized as clinical or incidental chronic pancreatitis based on the presence of vomiting, decreased appetite, or both vs. neither of these signs. All archived pancreas samples were scored histologically using a published scoring system. Sixty-one dogs with chronic pancreatitis were included. The most frequent clinical signs were lethargy, decreased appetite, vomiting, and diarrhea. Compared to the reference necropsy population, chronic pancreatitis cases were more likely to be older, neutered, of the non-sporting/toy breed group, and to have concurrent endocrine, hepatobiliary, or neurological disease. Clinical cases had significantly higher histological scores for pancreatic necrosis and peripancreatic fat necrosis, and were significantly more likely to have hepatobiliary or endocrine disease as well as increased liver enzyme activities, or elevated cholesterol and bilirubin concentrations. In conclusion, clinical disease resulting from chronic pancreatitis might be related to the presence of pancreatic necrosis and pancreatic fat necrosis. The signalment, presentation, and concurrent diseases of dogs with chronic pancreatitis are similar to those previously reported for dogs with acute pancreatitis.

<10>
Accession Number
20123397527
Author
Armstrong, P. J.; Williams, D. A.
Title
Pancreatitis in cats. (Special Issue: Exocrine pancreatic insufficiency and pancreatitis.)
Source
Publisher
Elsevier Inc
Location of Publisher
Orlando
Country of Publication
USA
Abstract
Pancreatitis was considered a rare disease in the cat until a couple of decades ago when several retrospective studies of severe acute pancreatitis were published. It was apparent that few of the diagnostic tests of value in the dog were helpful in cats. With increasing clinical suspicion, availability of abdominal ultrasonography, and introduction of pancreas-specific blood tests of increasing utility, it is now accepted that acute pancreatitis is probably almost as common in cats as it is in dogs, although the etiology(s) remain more obscure. Pancreatitis in cats often co-exists with inflammatory bowel disease, less commonly with cholangitis, and sometimes with both. Additionally, pancreatitis may trigger hepatic lipidosis, while other diseases, such as diabetes mellitus, may be complicated by pancreatitis. Therapy is similar to that used in dogs, with added emphasis on early nutritional support to prevent hepatic lipidosis. Less is known about chronic pancreatitis than the acute form, but chronic
Pancreatitis is more common in cats than it is in dogs and may respond positively to treatment with corticosteroids.

Abstract
Chronic pancreatitis used to be considered uncommon in dogs, but recent pathological and clinical studies have confirmed that it is in fact a common and clinically significant disease. Clinical signs can vary from low-grade recurrent gastrointestinal signs to acute exacerbations that are indistinguishable from classical acute pancreatitis. Chronic pancreatitis is a significant cause of chronic pain in dogs, which must not be underestimated. It also results in progressive impairment of endocrine and exocrine function and the eventual development of diabetes mellitus or exocrine pancreatic insufficiency or both in some affected dogs at end stage. The etiology is unknown in most cases. Chronic pancreatitis shows an increased prevalence in certain breeds, and recent work in English Cocker Spaniels suggests it is part of a polysystemic immune-mediated disease in this breed. The histological and clinical appearance is different in different breeds, suggesting that etiologies may also be different. Diagnosis is challenging because the sensitivities of the available noninvasive tests are relatively low. However, with an increased index of suspicion, clinicians will recognize more cases that will allow them to institute supportive treatment to improve the quality of life of the patient.
Disease has opened up new areas of research into optimal treatments. In particular, the role of enteral nutrition has been the focus of much attention, and current recommendations are to feed earlier in the disease than previously thought.

In the case of exocrine pancreatic insufficiency (EPI), which affects primarily young animals, online support can greatly facilitate optimal lifelong management. In this article, we provide some information that may be of value when veterinarians consider which web sites to recommend to their clients managing patients with EPI.

Exocrine pancreatic insufficiency (EPI) is a syndrome caused by an insufficient amount of pancreatic digestive enzymes in the small intestine. Clinical signs most commonly reported in cats with EPI are weight loss, loose and voluminous stools, steatorrhea, polyphagia, and in some cases a greasy soiling of the hair coat in the perianal region. Serum feline trypsin-like immunoreactivity concentration is the diagnostic test of choice for the diagnosis of affected cats. Treatment of cats with EPI consists of enzyme supplementation with either a powdered pancreatic extract or raw pancreas. Most cats with EPI also have severely decreased serum cobalamin concentrations and may require lifelong therapy.
parenteral cobalamin supplementation. Most cats respond well to therapy and can have a normal life expectancy and quality of life.

<15>
Accession Number
20123397522
Author
Clark, L. A.; Cox, M. L.
Title
Current status of genetic studies of exocrine pancreatic insufficiency in dogs. (Special Issue: Exocrine pancreatic insufficiency and pancreatitis.)
Source
Publisher
Elsevier Inc
Location of Publisher
Orlando
Country of Publication
USA
Abstract
Exocrine pancreatic insufficiency (EPI) is a disorder wherein the pancreas fails to secrete adequate amounts of digestive enzymes. In dogs, EPI is usually the consequence of an autoimmune disease known as pancreatic acinar atrophy. Originally believed to be a simple autosomal recessive disorder, a test-breeding recently revealed that EPI has a more complex mode of inheritance. The contributions of multiple genes, combined with environmental factors, may explain observed variability in clinical presentation and progression of this disease. Research efforts aim to identify genetic variations underlying EPI to assist breeders in their efforts to eliminate this disease from their breed and provide clinicians with new targets for therapeutic intervention and/or disease prevention. Genome-wide linkage, global gene expression, and candidate gene analyses have failed to identify a major locus or genetic variations in German Shepherd Dogs with EPI. Recently, genome-wide association studies revealed numerous genomic regions associated with EPI. Current studies are focused on alleles of the canine major histocompatibility complex. In this article we review findings from scientific investigations into the inheritance and genetic cause(s) of EPI in the purebred dog.

<16>
Accession Number
20123397521
Author
German, A. J.
Title
Exocrine pancreatic insufficiency in the dog: breed associations, nutritional considerations, and long-term outcome. (Special Issue: Exocrine pancreatic insufficiency and pancreatitis.)
Source
Publisher
Elsevier Inc
Location of Publisher
Orlando
Country of Publication
USA
Abstract
Canine exocrine pancreatic insufficiency (EPI) is an alimentary tract disorder causing malabsorption and debilities in affected individuals. This article covers predisposing factors to EPI and response to therapy. Although relatively easy to diagnose, knowledge of breed predispositions (and also of those breeds where the disease is less common) can guide the clinician. Numerous studies have examined therapy for EPI, and a key finding is the variability in response among affected dogs. This implies that close monitoring and individual tailoring of therapy is needed to maximize the chance of
success. Important factors affecting outcome are the choice of enzyme preparation, presence of hypocobalaminemia, and the response to the first 2 to 3 months of therapy.

<17>
Accession Number
20123397520
Author
Westermarck, E.; Wiberg, M.
Title
Exocrine pancreatic insufficiency in the dog: historical background, diagnosis, and treatment.
(Special Issue: Exocrine pancreatic insufficiency and pancreatitis.)
Source
Publisher
Elsevier Inc
Location of Publisher
Orlando
Country of Publication
USA
Abstract
This overview summarizes research performed during the last decades that has had an impact on the diagnosis and management of exocrine pancreatic insufficiency (EPI) in dogs. Pancreatic acinar atrophy is by far the most common cause for the malabsorption signs of canine EPI. The ability to diagnose pancreatic acinar atrophy in the subclinical phase before the development of total acinar atrophy and manifestation of clinical signs has offered new possibilities to study the pathogenesis of the disease. Diagnosis of exocrine pancreatic dysfunction is based on typical findings in clinical histories and clinical signs and is confirmed with pancreatic function tests. In recent years, the measurement of serum canine trypsin-like immunoreactivity has become the most commonly useful pancreatic function test to diagnose canine EPI. Serum trypsin-like immunoreactivity measurement is species- and pancreas-specific. When clinical malabsorption signs of EPI appear, enzyme replacement therapy is indicated. Despite accurate enzyme supplementation, only a small portion of orally administered enzymes are delivered functionally intact into the small intestine. In dogs, the highest enzyme activity in the duodenum has been obtained with nonenteric-coated supplements: raw chopped pancreas or powdered enzymes. Aside from dietary enzyme supplements, dietary changes are often made to improve clinical response, but sometimes weight gain and stool quality remain suboptimal. Other medications for treatment of gastrointestinal tract signs are often used in such dogs with EPI. Antibiotics are the most common adjunctive medication. Of the antibiotics administered, tylosin is used in Finland almost exclusively.

<18>
Accession Number
20123387471
Author
Romanita, M.; Vlagioiu, C.; Mateescu, C.; Poliana, T.; Tudor, N.
Title
Retrospective study regarding pancreatic disorders in dogs.
Source
Scientific Works - University of Agronomical Sciences and Veterinary Medicine, Bucharest Series C, Veterinary Medicine; 2011. 57(2):283-288. 13 ref.
Publisher
Universitatea de Stiinte Agronomice si Medicina Veterinara Bucuresti
Location of Publisher
Bucuresti
Country of Publication
Romania
Abstract
This paper contains the results of a retrospective study regarding acute and chronic pancreatic disorders in dogs. From October 2010 until September 2011, a number of 89 dogs were diagnosed with pancreatic disorders, inside AGERVET Clinic-Targoviste. The animals were examined with general methods and laboratory studies, using a dry biochemical analyzer-ARCRAY. After the data analysis, 64 dogs (71.91%) were diagnosed with acute pancreatitis and 25 dogs (28.09%) with chronic pancreatitis. The clinical symptoms in the acute form were represented by anorexia, vomiting, loss of weight, abdominal pain, sometimes jaundice and fever. The animals with chronic forms presented apathy, vomiting, diarrhea, loss of weight with an exaggerated appetite, feces impregnated with fat and repulsive smell, and abdominal pain. The laboratory results have shown an increases in blood biochemical parameters, including increased amylase and lipase.
<21>
Accession Number
20123280967
Title
Hypertriglyceridemia and pancreatitis in dogs.
Source
Publisher
Elsevier Inc.
Location of Publisher
Philadelphia
Country of Publication
USA

<22>
Accession Number
20123280928
Title
Early enteral nutrition for dogs with acute pancreatitis.
Source
Publisher
Elsevier Inc.
Location of Publisher
Philadelphia
Country of Publication
USA

<23>
Accession Number
20123280922
Title
Chronic pancreatitis in English Cocker Spaniels.
Source
Publisher
Elsevier Inc.
Location of Publisher
Philadelphia
Country of Publication
USA

<24>
Accession Number
20123241301
Author
Robertson, J.
Title
Diagnosis and management of feline pancreatitis and GI disease.
Source
Publisher
The North American Veterinary Conference
The current study aimed to determine the specificity, and to a lesser extent the sensitivity, of canine pancreatic-specific lipase (cPL) concentration in dogs with various disease conditions. Dogs were presented for postmortem examination and had serum collected for cPL concentration within 6 hr preceding death or immediately postmortem. Pancreatic tissue was collected postmortem, and sections from the left lobe, right lobe, and body of the pancreas were examined histologically. Inflammation and fibrosis in each section were assessed to determine a total pancreatic inflammatory score and pancreatic fibrosis score in each dog. Correlations between these scores and the cPL concentration were made, as well as determination of specificity. A total of 32 dogs were included in the analysis, 20 of whom had no to minimal pancreatic inflammation. The specificity of cPL with a cutoff value of 200 micro g/l was 80% (95% confidence interval [CI]: 56-94%), while with a cutoff of 400 micro g/l, the specificity was 90% (95% CI: 68-99%). There was a significant but rather low correlation between cPL concentration and the pancreatic inflammation score, but not with the fibrosis score. Canine pancreatic-specific lipase concentration has good specificity overall in dogs without pancreatitis. This test is less useful in dogs with milder pancreatitis, and both false-positive and false-negative results occur. Results indicated that dogs with clinical signs suggestive of pancreatitis would require abdominal imaging in addition to serum cPL testing to evaluate the cause (or causes) of clinical signs.
USA

Abstract

Background: Hypertriglyceridemia has been proposed to contribute to the risk of developing pancreatitis in dogs. Objectives: To determine associations between postprandial serum triglyceride concentrations and canine pancreatic lipase immunoreactivity (cPLI) concentrations or pancreatic disease. Animals: Thirty-five client-owned overweight (n=25) or obese (n=10) dogs weighing >10 kg. Methods: Healthy dogs were prospectively recruited for a cross-sectional study. Serum triglyceride concentrations were measured before and hourly for 12 hours after a meal. Fasting cPLI and canine trypsin-like immunoreactivity (cTLI) concentrations were assayed. Cut-off values for hypertriglyceridemia were set a priori for fasting (≥88, ≥177, ≥354, ≥885 mg/dL) and peak postprandial (≥133, ≥442, ≥885 mg/dL) triglyceride concentrations. The association between hypertriglyceridemia and high cPLI concentrations was assessed by exact logistic regression. Follow-up was performed 4 years later to determine the incidence of pancreatic disease. Results: Eight dogs had peak postprandial triglycerides ≥442 mg/dL and 3 dogs had fasting serum cPLI concentrations ≥400 micro g/L. Odds of high cPLI concentrations were 16.7 times higher in dogs with peak postprandial triglyceride concentrations ≥442 mg/dL relative to other dogs (P<.001). Fasting triglyceride concentration was not significantly associated with cPLI concentrations. None of the dogs with high triglyceride concentrations and one of the dogs with low fasting and peak postprandial triglyceride concentrations developed clinically important pancreatic disease. Conclusions and Clinical Importance: Overweight and obese dogs with peak serum postprandial triglyceride concentrations ≥442 mg/dL after a standard meal are more likely to have serum cPLI concentrations ≥400 micro g/L, but did not develop clinically important pancreatic disease.

<27>

Accession Number
20123027965

Author
Swift, I. M.; Hazell, K. L. A.; Morton, J. M.

Title
Hyperbilirubinaemia in dogs with acute pancreatitis.

Source

Publisher
Australian Small Animal Veterinary Association

Location of Publisher
St. Leonards

Country of Publication
Australia

Abstract
A historical cohort of 126 dogs with acute pancreatitis were reviewed with the major objective of documenting the frequency and associated risk of hyperbilirubinaemia for mortality. The medical records were accessed and signalment, history, diagnostic findings, treatment and outcome was recorded. The data was summarised and the association of hyperbilirubinaemia with death was assessed using Cox proportional hazards ratio estimation. Hyperbilirubinaemia was documented in 42/126 dogs and 30/42 (71%) dogs had ultrasound findings consistent with extrahepatic biliary obstruction. Overall, 19/126 (15%) dogs died including 12/42 dogs with hyperbilirubinaemia. All dogs with hyperbilirubinaemia received medical treatment and 34 survived more than 20 days. In the survivors, hyperbilirubinaemia resolved after three to 35 days. Hyperbilirubinaemia was a significant risk factor for death (hazard ratio 4.7, 95% confidence interval 1.7-2.8, P=0.03). This study showed hyperbilirubinaemia is a complication of acute pancreatitis and in this cohort, was a risk factor for death. Despite this risk, most dogs managed with prolonged medical treatment survived and had resolution of hyperbilirubinaemia.
Background: Pancreatitis is a common disorder in dogs for which the antemortem diagnosis remains challenging. Objectives: To compare the sensitivity and specificity of serum markers for pancreatitis in dogs with histopathologic evidence of pancreatitis or lack thereof. Animals: Seventy dogs necropsied for a variety of reasons in which the pancreas was removed within 4 hours of euthanasia and serological markers were evaluated within 24 hours of death. Methods: Prospective study: Serum was analyzed for amylase and lipase activities, and concentrations of canine trypsin-like immunoreactivity (cTLI) and canine pancreas-specific lipase (cPL). Serial transverse sections of the pancreas were made every 2 cm throughout the entire pancreas and reviewed using a semiquantitative histopathologic grading scheme. Results: The sensitivity for the Spec cPL (cutoff value 400 micro g/L) was 21 and 71% in dogs with mild (n=56) or moderate-severe pancreatitis (n=7), and 43 and 71% (cutoff value 200 micro g/L), respectively. The sensitivity for the cTLI, serum amylase, and lipase in dogs with mild or moderate-severe pancreatitis was 30 and 29%; 7 and 14%; and 54 and 71%, respectively. The specificity for the Spec cPL based on 7 normal pancreata was 100 and 86% (cutoff value 400 and 200 micro g/L, respectively), whereas the specificity for the cTLI, serum amylase, and lipase activity was 100, 100, and 43%, respectively. Conclusion and Clinical Importance: The Spec cPL demonstrated the best overall performance characteristics (sensitivity and specificity) compared to other serum markers for diagnosing histopathologic lesions of pancreatitis in dogs.