Pancreatic Ultrasound in 54 Dogs with Acute Pancreatitis: Different Clinical Presentation with Left or Right Limb Involvement of the Pancreas

Remo Lobetti,1,2 Eric Lindquist2, Johanna Frank3

1Bryanston Veterinary Hospital, Box 67092, Bryanston, South Africa; 2SonPath, Sparta, New Jersey, USA; 3VetSound IM LLC, Furlong, PA, USA.

ABSTRACT

Objective: The purpose of this study was to correlate clinical signs with the region of the pancreas affected as based on ultrasound findings with the hypothesis that dogs with left-sided pancreatitis would result in a greater percentage of anorexia and right-sided pancreatitis would result in a greater percentage of vomiting.

Methods: The records of 54 privately owned dogs that were diagnosed with acute pancreatitis based on history, clinical signs, laboratory testing, and abdominal ultrasound were retrospectively evaluated. Based on the ultrasound examination, the dogs were divided into groups: Group 1 consisted of 24 dogs diagnosed with pathology within the left limb of the pancreas and group 2 of 30 dogs that were diagnosed with pathology within the right limb of the pancreas. The presence of abdominal pain, anorexia, vomiting, and diarrhea was correlated between the two groups.

Results: There was no difference between age, breed, and sex of dogs in each group, and both groups were over-represented. In group 1, pain was noted in 36% of the dogs, anorexia in 48% of the dogs, vomiting in 17% of the dogs, and diarrhea in 20% of the dogs. In group 2, pain was noted in 30% of the dogs, vomiting in 73% of the dogs, and diarrhea in 8% of the dogs. A statistical difference between the groups was present with vomiting and diarrhea.

Conclusions: These findings indicate that there is a clinical difference between right- and left-sided pancreatitis, with diarrhea statistically significant in left-sided pancreatitis and vomiting statistically significant in right-sided pancreatitis. These differences between the two groups can possibly be attributed to duodenal and upper gastrointestinal tract involvement when the right side of the pancreas is affected, resulting in vomiting rather than diarrhea.

INTRODUCTION

Pancreatitis is a relatively common disorder in dogs, and its diagnosis is clinically challenging. Depending on disease severity, clinical presentation can vary markedly and may consist of non-specific findings such as anorexia, vomiting, lethargy, diarrhea, and weight loss. However, this combination of clinical signs can occur in other conditions.1

The diagnosis of acute pancreatitis can be difficult because of the anatomic inaccessibility of the pancreas, vague clinical signs, and physical examination and inconsistent laboratory results. Common, yet non-specific clinical signs include abdominal pain, anorexia, vomiting, and diarrhea. Controversy exists regarding the sensitivity and specificity of diagnostic tests for the diagnosis of pancreatitis. Part of this confusion arises from the fact that there is no easily applied gold standard against which diagnostic methods can be evaluated. A definitive diagnosis of pancreatitis requires histopathology confirmation, but because of the invasiveness of pancreatic biopsy, and the possibility of highly localized disease that can be missed with a single biopsy, this procedure is infrequently performed. Although serum amylase and lipase activities are useful as a quick screening test for pancreatitis, their activity must be at least three to five times the upper limit of the reference range to suggest a diagnosis of pancreatitis.2 Furthermore, the diagnosis must be confirmed by other diagnostic modalities, and normal test results do not eliminate the possibility of pancreatitis. Serum specific pancreatic lipase is a highly specific test for exocrine pancreatic function and is also highly sensitive for pancreatitis.3 Abdominal ultrasound is highly specific for pancreatitis but is not particularly sensitive.4 Histopathology evidence of pancreatitis is conclusive for pancreatitis, however, in most cases, lesions are localized, and the lack of histopathology evidence of pancreatitis does not eliminate a diagnosis of pancreatitis.

Thus, the diagnosis of pancreatitis generally is clinical and based on a combination of clinicalpathologic and imaging findings. Currently, ultrasoundography is the imaging modality of choice to evaluate the pancreas and to differentiate from other intra-abdominal pathology that may mimic acute pancreatitis. Considering laboratory work, serum specific pancreatic lipase currently is regarded as the most sensitive and specific test for diagnosing pancreatitis and usually is accepted as a biochemical surrogate marker for the disease in clinical practice.

CONCLUSION AND SUMMARY

These findings indicate that there is a clinical difference between right- and left-sided pancreatitis, with diarrhea having a statistically significant difference in left-sided pancreatitis and vomiting having a statistically significant difference in right-sided pancreatitis. These differences between the two groups can possibly be ascribed to duodenal and upper gastrointestinal tract involvement when the right side of the pancreas is affected, resulting in vomiting rather than diarrhea.

REFERENCES