

Left Atrial Enlargement in Cats

This study evaluated cats with known or suspected heart disease using diagnostic techniques available in private practices. Of 151 cats, 103 had heart disease, 19 had respiratory disease, and 29 were controls. All cats had a full history, physical examination, blood pressure, ECG, and echocardiographic examination. Of the cats with cardiac disease, 77 had primary acquired disease, 16 had secondary heart disease, and 10 had congenital disease. For data analysis, cats were divided into 3 groups: group 1, no heart disease (normal and respiratory disease cats); group 2, heart disease with no clinical signs of heart failure; and group 3, heart disease with clinical signs of failure. Significant difference in prevalence of murmurs was noted, with 50%, 25%, and 65% of normal cats, cats with respiratory disease, and cats with primary acquired disease having murmurs, respectively. Arrhythmia was noted in 26% of all cats, with significant differences

among groups; group 3 had the highest percentage (48%). Group 3 also had the highest prevalence of gallop sounds and a significantly lower median heart rate. Prevalence of coughing was highest in the respiratory group (63%), whereas only 8 cats with cardiac disease coughed. Echocardiographic measurement of left atrial diameter was significantly different among the groups, with medians of 12, 15, and 20 mm in groups 1, 2, and 3, respectively. A left atrial diameter >16.5 mm may help differentiate heart failure from respiratory disease.

Commentary

This study described important findings clinicians likely see in cats with cardiac disease and CHF. This population of cats typically does not cough, may or may not have a murmur, and may have a depressed heart rate. A brief echocardiographic evaluation of the left atrial size can provide

highly sensitive and specific information about a cat with heart failure. Recently, NT-proBNP (a cardiac blood-based biomarker) analysis has been shown to accurately discriminate between cats with respiratory disease and cats with CHF.¹ Elevated NT-proBNP concentration in a cat with dyspnea can help diagnose CHF when the cause of dyspnea is unclear and difficult to determine.—*Heidi Kellihan, DVM, DACVIM (Cardiology)*

Source

Clinical signs and left atrial size in cats with cardiovascular disease in general practice. Smith S, Dukes-McEwan J. *J SMALL ANIM PRACT* 53:27-33, 2012.

1. Utility of plasma N-terminal pro-brain natriuretic peptide (NT-proBNP) to distinguish between congestive heart failure and non-cardiac causes of acute dyspnea in cats. Fox PR, Oyama MA, Reynolds C, et al. *J Vet Cardiol* 11:S51-S61, 2009.

Ultrasound & Liver Disease: Worth It?

Cholangitis, a common inflammatory disorder of the biliary system in cats, often occurs in conjunction with cholangiohepatitis. The cholangitis/cholangiohepatitis complex in cats is subdivided into 3 categories: neutrophilic and lymphocytic cholangitis (the 2 major categories) and chronic cholangitis associated with liver fluke infestation.

This retrospective study evaluated 26 cats with a histologic diagnosis of neutrophilic ($n = 12$) or lymphocytic ($n = 14$) cholangitis for ultrasonographic changes to the liver, biliary system, pancreas, and small intestine. The study sought to determine whether cholangitis can be diagnosed based on these changes and differentiating the disease subtype is possible. However, no statistically significant ultrasound changes were found that could distinguish the forms. Although not significant, there

was a tendency for cats with neutrophilic cholangitis to demonstrate sonographic evidence of an enlarged pancreas. Most cats had sonographically normal liver size and echogenicity as well as normal biliary systems. Statistically significant changes in cats with cholangitis included hyperechoic liver parenchyma, hyperechoic gallbladder contents, and increased pancreatic size. These parameters may be useful for diagnosing cholangitis.

Commentary

Unfortunately, ultrasound cannot definitively diagnose specific causes of liver disease, which is why cytology, biopsy, and/or culture are often indicated. In one study, hyperechoic livers (relative to falciform fat) showing beam attenuation had 91% sensitivity, 100% specificity, and 100% positive predictive value for feline hepatic lipidosis.¹ This is a likely explanation for why cats in

this study had hyperechoic livers—there was probably concurrent lipidosis (many presented with decreased appetite). Of importance, these patients often had pancreatitis and/or inflammatory bowel disease as well as cholangitis (often referred to as *triaditis*). I believe, therefore, that it is worthwhile to sonographically evaluate the entire abdomen for any hepatic, GI, or pancreatic lesion; biliary obstruction; and related issues.—*Jean K. Reichle, DVM, MS, DACVR*

Source

Ultrasonographic findings of feline cholangitis. Marolf AJ, Leach L, Gibbons DS, et al. *JAAHA* 48:36-42, 2012.

1. Accuracy of ultrasonography in the detection of severe hepatic lipidosis in cats. Yeager AE, Mohammed H. *Am J Vet Res* 53:597-599, 1992.

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