

DILATED CARDIOMYOPATHY IN ESTRELA MOUNTAIN DOGS ABSTRACT FROM A STUDY ON THE DISEASE

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Dilated Cardiomyopathy is part of a group of diseases called the cardiomyopathies, characterized for affecting primarily and predominantly the myocardium. Dilated cardiomyopathy is the most prevalent form of cardiomyopathy in dogs. The term dilated cardiomyopathy is used to define a primary myocardial disorder, characterized by reduced contractility and dilation of one or both ventricles and of familial or unknown etiology. In dog is the second most common cardiac disease. Only degenerative mitral valve disease and, in some geographic regions, heartworm disease are more prevalent.

The main objective of our study was to characterize the disease in the Estrela Mountain Dog, with special concern on diagnosis, leading to the knowledge of dilated cardiomyopathy natural history in this breed.

Between September 2005 and May 2010 we observed and performed the clinical follow-up to a total of 223 Estrela Mountain Dogs. All dogs underwent electrocardiographic and echocardiographic examinations. We also performed Holter examination in some animals.

We observed a 20% prevalence of the disease in the breed, being the most common cardiac pathology and the leading cause of death in Estrela Mountain Dogs.

Although atrial fibrillation is the most common rhythm abnormality in symptomatic animals, the electrical conduction disturbances are observed in most dogs in the occult stage of the disease. These conduction disturbances observed on the resting electrocardiogram, are a reflection of a sino-atrial dysfunction associated with dilated cardiomyopathy in the Estrela Mountain Dog, being also associated with a high incidence of sudden death.

Survival analysis showed a median survival time of 320 days after diagnosis. The affected but asymptomatic animals live significantly longer (mean 883 days), which reveals a long occult stage of the disease in this breed. This stage can be as long as 4 years. Some clinical and echocardiographic variables were found to have significant influence on survival time, providing important prognostic factors.

On Histopathology we observed the concomitant presence of both histological types described in canine dilated cardiomyopathy ("attenuated wavy fibers" and "fibrosis / fatty infiltration"). The combination of fibrosis quantification with the observation of attenuated wavy fibers in the left ventricle is an accurate tool in the histopathological diagnosis of dilated cardiomyopathy in the Estrela Mountain Dog. Furthermore, the observation of more than 5 / 20 microscopic fields (100x) affected with fibrosis in the middle portion of the left ventricular free wall, provides a diagnosis of DCM in the Estrela Mountain Dog.

Finally, given the unique characteristics of dilated cardiomyopathy, we provide specific recommendations for diagnosis of the disease in Estrela Mountain Dogs.