



EAST COAST VETERINARY CARDIOLOGY

Restrictive Cardiomyopathy

Besides hypertrophic cardiomyopathy (HCM), there are other types of heart muscle disease diagnosed in the cat. HCM still represents the most commonly encountered form of heart disease in the cat (represents over 70% of the cardiomyopathies diagnosed in the cat).

Restrictive cardiomyopathy (RCM) is another type of heart muscle disease diagnosed in cats. Two forms have been reported in the cat – a myocardial and endomyocardial form. Both forms of RCM result in significant diastolic dysfunction (abnormality in the relaxation of the heart muscle characterized by increased muscle stiffness). The myocardial form is a non-infiltrative disease where there is significant impaired ventricular filling leading to significant atrial dilation (as blood cannot freely enter the ventricles due to his impairment to filling, leading to backup of blood in the top chambers, the atria). The endomyocardial form is characterized by infiltration of the heart muscle with significant degrees of scar tissue (fibrosis). Some affected cats will have a large bridging scar noted during echocardiography. This scar tissue leads to diastolic dysfunction and atrial enlargement. In both forms, the underlying etiology (cause) is unknown. Some have speculated about an underlying inflammatory reaction as a potential cause (such as a reaction to a virus or some type of immune mediated disease).



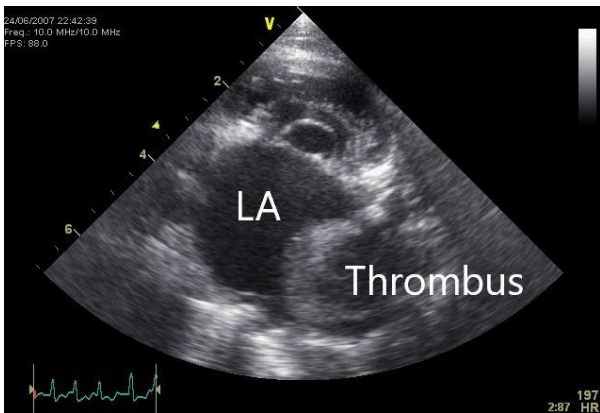
There does appear to be a female predisposition in cats with RCM, as it has been reported that 73% of cats in one study were female. The mean age reported at the time of diagnosis is 7 years. Diagnosis is via echocardiography which reveals significant fibrosis of the heart muscle (endomyocardial form), or significant atrial dilation (often both left and right) with significant changes to heart muscle wall thickness or reduction in heart contractility. Affected cats are at high risk for development of congestive heart failure (CHF) with fluid retention both in the lungs (pulmonary edema) and outside the lungs (pleural effusion). Cats are also at risk for thrombus formation and thromboembolic complications as well as a variety of irregular heart rhythms (arrhythmias).

Treatment consists of judicious diuretics (to avoid excessive dehydration which will worsen cardiac output) and ACE-inhibitor therapy, and prophylactic anticoagulant therapy. In cats with pleural

effusion, thoracocentesis is required. In some cats, pleural effusion is refractory and continues to recur despite medical management. Prognosis is variable – while some cats were reported to survive only 4 months after diagnosis, some cats have been managed well over a year after diagnosis.

An uncommon classification of cardiomyopathy encountered in cats is called unclassified cardiomyopathy (UCM). This is a nebulous category of cardiomyopathies that are reserved for cases that do not fit entirely into the other recognized cardiomyopathy categories. Some suspect that UCM may represent a form of RCM or may represent a progressive form of another type of cardiomyopathy such as HCM as opposed to a separate primary disease entity. If a cat is classified as having UCM, treatment would be instituted as indicated in a cat diagnosed with RCM.

Clinical signs of cats with cardiomyopathy are similar amongst all the recognized forms of disease (hypertrophic, restrictive, dilated). Affected cats are at risk for CHF which is associated with difficulty breathing, lethargy, weakness, poor appetites. Owners should also monitor their affected cats for signs of thromboembolic disease which include acute paralysis in any limb which is cold and painful.



A large clot (thrombus) is present within a massively enlarged left atrium in a cat with RCM.



A thoracic radiograph from a cat with RCM – there is a moderate volume of pleural effusion outside of the lungs making it difficult to both see the lungs and the heart.

Key Points

Restrictive Cardiomyopathy (RCM) is an uncommon form of heart muscle disease in the cat.

Characterized by significant diastolic dysfunction of the heart muscle due to increased muscle stiffness.

Affected cats are at risk for CHF and clot complications.

CHF is characterized by pleural effusion and pulmonary edema. In some cats with RCM, pleural effusion can be very challenging to manage (refractory).

Cause of RCM is unknown – it may represent a reaction to a previous virus or immune mediated disease.

Affected cats may show signs of labored breathing, lethargy, weakness, collapse, poor appetite or acute paralysis in a limb due to a thromboembolism.

