

## **Dilated Cardiomyopathy**

Dilated Cardiomyopathy (DCM) is one of the most common acquired heart diseases in large and giant breed dogs. This disease causes the heart muscle to lose its ability to contract normally and pump blood effectively. As a result, the heart dilates to compensate for the decreased function. Dilated Cardiomyopathy can affect both sides of the heart simultaneously or separately. Left sided heart muscle failure occurs most commonly, leading to pulmonary edema( fluid in the lungs).

Since the heart muscle cannot work efficiently to pump blood out of the heart, the pressure within the heart and body increases, causing fluid to leak from the blood vessels. This fluid can accumulate in the chest cavity (pleural effusion), in the lungs (pulmonary edema) and/or in the abdomen (ascites). The accumulation of fluid means the pet is in Congestive Heart Failure (CHF) and requires immediate medical attention.

The exact cause of DCM is unknown. A genetic component is believed to exist in the majority of cases because of the prevalence of DCM in specific breeds such as the Doberman Pinscher, Great Dane and Boxer. Specific genetic mutations have been identified in the Doberman and the Boxer.

Dilated cardiomyopathy is rarely reversible, and individuals usually have it for life. A rare exception is taurine deficiency, which is a lack of whole-body stores of the amino acid taurine. Taurine deficiency can be the cause of the problem when DCM is detected in a dog whose breed is not typical for the disease. If taurine deficiency is suspected a blood sample can be sent out to check the pet's taurine level. Taurine can be found at most health food stores in the amino acid section.

### **Symptoms**

Symptoms include loss of appetite, pale gums, increased heart rate, coughing, difficulty breathing, weakness, distended abdomen, collapse and fainting.

### **Diagnosis**

A heart ultrasound (echocardiogram or echo) will allow the cardiologist to visualize the heart structure and function. An electrocardiogram (ECG) can detect irregular heart rhythms (arrhythmias) that are associated with the disease. Chest x-rays will be needed if congestive heart failure is suspected. As the disease progresses, the arrhythmias can become more severe, even life threatening. The cardiologist may recommend a Holter to monitor the arrhythmia over a 24-hour period. A Holter monitor is a small device that is placed on the pet, the pet can then go about their daily routine at home while the monitor records the ECG. The recording is then analyzed and reviewed by the cardiologist. Antiarrhythmic medications may be started or adjusted based on the Holter results.

## **Treatment**

Treatment of congestive heart failure typically includes diuretics and ACE inhibitors. It is important to check kidney values before and after starting these medications to ensure the kidneys are functioning properly and can handle the medication appropriately. Pimobendan will be added to help the heart muscle contract better and anti-arrhythmics may be needed if an arrhythmia is present. Serial ECGs, Holter monitors, echocardiograms and chest x-rays may be needed as the disease progresses. These diagnostics will help the cardiologist assess progression and help determine a treatment plan.