



# EAST COAST VETERINARY CARDIOLOGY

## Tricuspid Valve Dysplasia

Tricuspid valve dysplasia is a congenital (born with) condition which is characterized by malformation of the tricuspid valve. The tricuspid valve is located on the right side of the heart and it separates the right atrium (a storage chamber) from the right ventricle (the chamber which contracts to eject blood to the lungs). The tricuspid valve when open should allow free flow of blood into the right ventricle but when it closes it should seal to prevent backflow. Tricuspid valve dysplasia is more commonly diagnosed in larger breed dogs and is over-represented in the Labrador Retriever. In this breed, heritability has been demonstrated as an autosomal dominant trait. Tricuspid valve dysplasia has also been diagnosed in Boxers, German Shepherds, Golden Retrievers and the Weimaraner. This condition is rarely reported in the cat.

In animals with tricuspid valve dysplasia, the valve is thickened and does not close properly, leading to backflow of blood across the valve called tricuspid regurgitation. In some cases, the motion of the valve is restricted/abnormal leading to a narrowing called stenosis. These changes often lead to progressive enlargement of the right side of the heart, especially the right atrium. This can place affected animals at risk for right sided heart failure – this usually consists of the fluid accumulation in the abdomen. In some animals, it can also cause fluid build-up in the chest cavity as well.

Diagnosis of the disease is via echocardiography which is usually prompted after diagnosis of a right sided systolic heart murmur. Due to the higher prevalence in the Labrador breed, many breeders will screen their lines with routine echocardiography. Due to the heritability of the disease in this breed, dogs diagnosed with tricuspid valve dysplasia should not be bred.

Clinical signs of affected animals vary depending of the severity of disease – those animals with mild-moderate disease may show no clinical signs and generally have a good long-term prognosis. Animals with severe disease may exhibit exercise intolerance, fainting, a distended abdomen and labored breathing. Arrhythmias may be more common in animals with tricuspid valve dysplasia, particularly an arrhythmia called supraventricular tachycardia. These arrhythmias may result in worsening exercise capacity, fatigue, poor appetite and fainting. Treatment in severely affected animals generally entails controlling any arrhythmias which are present, managing heart failure with diuretics, ACE inhibitors and Vetmedin. Periodic draining free fluid from the abdomen (abdominocentesis) is helpful for patient comfort. Surgical repair of the valve is offered at some veterinary institutions. Prognosis for severely affected animals vary, but some animals can be managed for years medically.

