

Arrhythmogenic Right Ventricular Cardiomyopathy

Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) is a heart muscle condition that develops almost exclusively in the Boxer breed of dog. In fact, many refer to the disease as “Boxer Cardiomyopathy”. This condition causes normal heart muscle tissue to be replaced by scar tissue and fat. When normal heart muscle tissue is damaged in this way, arrhythmias (irregular heartbeats) begin to develop. Dogs with ARVC have arrhythmias that originate from the lower portion of the heart and are known as ventricular arrhythmias. Some dogs with ARVC may have no outward symptoms of the disease when they are diagnosed while other dogs may have fainting spells, or periods of unexplained panting and restlessness associated with their abnormal heart rhythms. Sadly, dogs with ARVC are also at risk of experiencing sudden death as a result of their disease.

The majority of dogs with ARVC have arrhythmias with no obvious change to the size or function of their heart on imaging tests. A small proportion of dogs with ARVC develop dilation of the heart chambers and a severe decrease in cardiac pumping function. Dogs in this category have a poorer prognosis and may go on to develop congestive heart failure.

The severity of arrhythmias caused by ARVC varies from patient to patient, as does the long-term prognosis. In patients with arrhythmias that are mild, antiarrhythmic medications may not initially be recommended. In other patients, antiarrhythmic medications may be needed to try to suppress arrhythmias that are considered dangerous. ARVC can worsen over time so it is important that patients have periodic monitoring to ensure optimal treatment. Unfortunately, administration of antiarrhythmic medications cannot completely eliminate the risk of sudden death in pets with ARVC.

The diagnosis of ARVC is often based on the results of a Holter monitor test and/or a standard electrocardiogram (ECG). The Holter monitor records a continuous ECG for 24 hours and allows the electrical rhythms of the heart to be assessed. It provides important information regarding the frequency and severity of the arrhythmias in each patient and helps direct the treatment plan. It is also recommended that patients with arrhythmias be evaluated with echocardiography (cardiac ultrasound). This test allows the cardiologist to determine whether there is evidence of heart enlargement or decreased cardiac pumping function that can occasionally develop in dogs with ARVC. The ultrasound also helps rule out other forms of cardiac disease.

