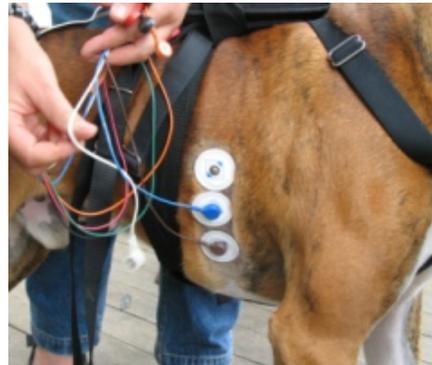




Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) (formerly “Boxer Cardiomyopathy”)

ARVC occurs predominantly in middle to older aged Boxer dogs roughly aged 6 years or older, although it can occur as young as 3 years. However, any breed can develop the disease. It is occasionally diagnosed in cats, as well. ARVC is very similar to ARVD in humans and can involve both electrical (abnormal heart rhythms) and structural (poor pumping) heart dysfunction. The majority of dogs with ARVC develop electrical cardiac dysfunction prior to developing any structural dysfunction.

ARVC in Boxer dogs is inherited, meaning that there is a genetic basis to it, but it does not manifest clinically until later in adulthood. Development of electrical dysfunction can lead to pathologic, rapid heart rates, fainting/collapse episodes, and even sudden death. Structural dysfunction can lead to circulatory congestion and congestive heart failure similar to that which occurs with dilated cardiomyopathy (DCM).



Diagnosis

Many Boxer dogs with ARVC are asymptomatic at the time of diagnosis via identification of an abnormal heart rhythm on routine physical examination or on an electrocardiogram obtained during anesthesia for a routine procedure. Dogs that are asymptomatic at the time of diagnosis are considered to be in the occult phase, which can last from 3 to 5 years. The most common clinical signs leading to diagnosis are fainting episodes. Occasionally dogs are diagnosed after presenting with signs of congestive heart failure such as respiratory distress or coughing.

Clinical diagnosis is made following a series of diagnostic testing which usually includes a screening electrocardiogram (ECG), echocardiogram (cardiac ultrasound), and Holter monitor (ambulatory 24 hour ECG) performed by a board-certified veterinary cardiologist.



Treatment

Treatment for ARVC is dependent upon the presence or absence of clinical signs and the severity of electrical dysfunction present. Most dogs in the occult phase do not require treatment unless they are having persistently or extremely rapid heart rates. Dogs with extremely severe rhythms and dogs who are fainting/collapsing due to these rhythms are treated with antiarrhythmic medications, the most common of which is Sotalol. Dogs with congestive heart failure receive diuretic therapy and other heart failure medications.

Prognosis

Prognosis for Boxer dogs with clinical signs of ARVC is guarded and difficult to predict due to the inherent risk of sudden death associated with the disease. Dogs with occult ARVC are also at some risk for sudden death, but the occult phase alone can last between 3-5 years before any clinical signs are observed.

Screening for ARVC

Some of the genetic mutations that contribute to development of ARVC in some dogs have been identified, although the complete spectrum of mutations and their interactions remain somewhat unclear. Genetic testing that may be able to identify your Boxer dog's risk for developing ARVC is available through Washington State University. Please ask Dr. Peddle for more information.