

# Vet's Corner – Heart Disease in Dogs

**Dogs (in fact all domestic animals) very rarely have heart attacks as in humans. Like all mammals, dogs and cats have a four chambered heart consisting a left and a right upper chambered atrium, and left and right lower chambered ventricles. The left and right atrium receive blood from the lungs and body respectively. The left ventricle is responsible for pumping oxygen enriched blood from the lungs through the aorta into the body. The right ventricle pumps the returning blood from the body to the lungs to be oxygenated.**

## What is a heart attack?

In humans a heart attack (also know as a coronary or myocardial infarction) is the damage or death of heart muscles from the sudden blockage of a coronary artery by a clot.

The heart is a pump and the coronary vessels supply the heart with blood and oxygen. Without oxygen the area supplied by the vessels dies. If the amount of heart muscle affected is big enough, the person dies because the heart can no longer supply blood to the rest of the body, the brain being the most sensitive, hence often loss of consciousness.

The most common cause of blocking of the coronary vessels is build up of arteriosclerotic plaque. Cholesterol (as well as other things) forms a lining of material which narrows the coronary vessels progressively. This causes poor blood supply to the heart (pain). If some of this material breaks off and clogs the vessel completely, this is known as a heart attack.

It is rare for domestic animals to have high cholesterol. Individual animals can have high cholesterol but it is generally related to some other medical condition and even then they don't build up arteriosclerotic plaque in the coronary vessels.

So why do people say their pet has had a heart attack? People often speak from their knowledge of what happens in people. Why do people die suddenly? – Heart attacks. Why wouldn't dogs do the same?

To get a diagnosis of a sudden death often requires a complete post-mortem and even then sometimes the answer is not clear. A diagnosis of heart attack in absence of a post-mortem often gives the owner a sense of closure and the thought that there is nothing that could have been done to save their pet, but a vet will usually want to seek a more accurate answer.

Dogs do however suffer from heart disease but it is uncommon for them to die suddenly from this. Most will have shown some symptoms previously, eg lack of exercise tolerance (gets puffed readily) or persistent cough, enlarged tummy and pale or bluish gums.

The most common form of heart disease is a wearing of the heart valves. This is called valvular incompetence resulting in a heart murmur which the vet can often hear with a stethoscope. Generally, for a dog to die from a failing heart there will have been symptoms which require treatment and the heart eventually gives up. This is a chronic condition.

## What tests might a Veterinarian perform?

Firstly, a chest x-ray to see if there is any change in size and shape of the heart. If the x-ray shows an enlarged heart, your Vet may start your pet on medication, eg diuretics to get rid of excess fluid in the lungs or abdomen, and vascular or cardiac active drugs to help the heart pump more efficiently.

ECGs can be done to check arrhythmia (electrical mis-function), and a cardiac specialist might perform an echocardiogram (Doppler ultrasound). These tests are not done routinely at normal check ups, usually only when symptoms suggest it.

With all GAP dogs we routinely check their hearts, listening for murmurs before they are anaesthetised. If a murmur is detected then the new owner would be informed. Some dogs however can go on for a long time with a heart murmur with little obvious effect on them.

Certain big breeds are prone to heart disease but greyhounds have never figured excessively in these. With greyhounds now being kept longer as pets compared with previously, it is reasonable to assume that with age some cardiac problems will be encountered.

## Interesting Trivia

A mortality survey (not scientific) of greyhounds in 2000 in the UK showed the average age of death is 10. This figure may increase as more greyhounds are kept as pets. Interestingly the combined deaths from heart disease and cancer were about 50%, the same as humans. However, heart disease in greyhounds is 6%, the balance being cancer, in humans it is about 25% heart disease / 25% cancer. ■