



HYPERTROPHIC CARDIOMYOPATHY

HYPERTROPHIC CARDIOMYOPATHY (HCM) is the most common form of heart disease in cats, and occurs where there is an increase in the thickness of the muscular wall of the heart, due to having to work harder.

As the heart muscle becomes thicker, the chambers within the heart get smaller along with the volume of blood they can hold, which means only a small volume of blood can be pumped into the circulation with each heartbeat. Additionally, the thickened muscle cannot relax properly, and so between contractions, the chambers do not expand and fully fill with blood. The thickened heart muscle requires a lot of energy and oxygen but often its blood supply is poor. If the heart muscle is starved of oxygen then some of the cells may die to form a small scarred area, which can cause irritation and the development of abnormal heartbeats (*arrhythmias*).

The cause of HCM is not fully understood, although a genetic predisposition has been recognised in certain breeds, such as **Maine Coons**, **Ragdolls** and **Persians**. Cardiomyopathy may also occur secondary to other conditions, such as **hyperthyroidism** (*overactive thyroid glands*), **hypertension** (*high blood pressure*), and **acromegaly** (*excessive growth hormone production*).

SIGNS OF HCM

In the initial phase of disease, cats may show no signs at all and appear completely normal and healthy – a number of cats may never actually develop clinical disease. However, while in some cats progression of the underlying disease can be slow, in others it can be quite rapid.

Some early signs of disease may be detectable during a clinical examination by a vet prior to the onset of any overt signs – one reason why every cat should be checked by a vet at least annually!

Early warning signs that may be detected by your vet include:

- **HEART MURMUR** – an abnormal noise detected when listening to the heart with a stethoscope. It develops due to turbulence in the flow of blood through the heart.
- **GALLOP RHYTHM** – during each cycle of heart contractions, you normally hear 2 sounds through a stethoscope (associated with the closure of heart valves during contraction and relaxation of the heart). With significant heart disease, a 3rd audible sound is sometimes detected known as a “gallop” rhythm.
- **ABNORMAL HEART RATE** – with heart disease, the heart rate can significantly increase or decrease out of the normal range for cats, and there may also be heartbeats without any effective flow of blood (*pulse deficit*).
- **CARDIAC DYSRHYTHMIAS** – normally cats have a very regular heart rate, however with heart disease there can be interference in the normal electrical impulses that control heart contractions, which can lead to disturbances to the normal rhythm.

Many cats, especially in the early stages of disease, may only have changes in the cardiac muscles that are detected during ultrasound examination of the heart. These cats are clinically silent (*asymptomatic*), although many will go on to develop signs later on.

If you have any questions about your pets, call us on 01325 620968 or ask a member of our team



Stanhope Park Veterinary Hospital

If heart function is significantly impaired by cardiomyopathy, this will lead to heart failure.

- Cats can sometimes develop clinical signs without prior warning and may deteriorate very rapidly.
- As cats are not “exercised” like dogs, it is often more difficult to detect that they have reduced exercise tolerance, which is often an early sign of heart disease. Cats are likely to just spend a little more time resting or sleeping, and this may not be very obvious. Detecting early signs of disease at home is often very difficult as cats are good at hiding signs of disease. Additionally, there may be no obvious signs until a critical point is reached due to advancement of disease or due to a stress which may result in sudden or rapid development of quite marked signs.
- In cats, the most commonly seen sign of heart failure is the development of **breathing difficulties** (*dyspnoea*), or more **rapid breathing** (*tachypnoea*). This is generally caused by either a build-up of fluid in the chest cavity around the lungs (*pleural effusion*), or within the lung tissue (*pulmonary oedema*).
- Cats may also have **cold extremities** (*ears and paws*) and **pale mucous membranes** (*gums*), suggesting poor circulation. Occasionally the mucous membranes or even the skin may show signs of **cyanosis** (*bluish colour*).
- Coughing is rarely seen in cats with heart disease, although it is a common sign in dogs.
- High blood pressure (*hypertension*) may cause blood vessels to burst in the eyes, leading to **blindness**.

FELINE AORTIC THROMBOEMBOLISM (“FATE”)

Another sign that can occur in cats, and may sometimes be the first indicator of underlying heart disease, is the development of a **Feline Aortic Thromboembolism**. A **thrombus** (*blood clot*) may develop within one of the heart chambers in a cat with cardiomyopathy, due to blood not flowing normally through the heart. The thrombus is initially attached to the wall of the heart, but may become dislodged and carried into the blood stream as an **embolus**. Once in the circulation, these emboli can lodge in small arteries and obstruct blood flow to various regions of the body. Although this can happen at a number of different sites, the most common site is the end of the major artery (**aorta**) as it divides to supply blood to the hind legs. This causes a sudden onset paralysis to one or both back legs with severe pain and distress to the cat.

Thrombi may also lodge in the brain, causing neurological signs such as an unsteady gait (*ataxia*), twitching, restlessness etc.

If you are concerned your cat may be suffering from HCM, or is displaying any of the signs described above, then please contact the surgery for further advice, and to arrange an appointment with a vet.



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