VP Client Information Sheets
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Feline Cardiomyopathy

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Cardiomyopathy means heart muscle disease:

- Cardio = heart
- Myo = muscle
- Pathy = disease

Hypertrophic cardiomyopathy is the most common heart disease in cats today. Other cardiomyopathies that you may hear your veterinarian discuss are:

- Dilated cardiomyopathy
- Restrictive cardiomyopathy
- Unclassified cardiomyopathy

Hypertrophic Cardiomyopathy (HCM)

Cats with HCM have thicker than normal heart walls. To see the heart walls and diagnose HCM requires a cardiac ultrasound – an echocardiogram.

The first sign of HCM often will be your veterinarian reporting that your cat has a heart murmur. It is likely that you will be surprised to hear this because most cats with HCM show no signs until the later stages. Or the first sign may be quite distressing:

- difficulty breathing (as a result of fluid build up in the chest and/or lungs)
- sudden and often very painful hindlimb or forelimb weakness or paralysis (as a result of a clot blocking flow to the limbs)
- sudden death (at home, or during an elective procedure involving anesthesia).

Young cats (even those less than 6 months of age) can be affected, but the diagnosis is most often made in middle-aged and older cats.

With HCM, a cat can have congestive heart failure, clots in the aorta, and arrhythmias (irregular heart beats). Cats with these signs are often initially hospitalized and then sent home with medication.

HCM tends to run in families, and is seen most often in Maine coon cats, American shorthairs, and Persians. However, it can be seen in any cat. In Maine coon cats, a gene defect that runs in families with an autosomal dominant inheritance pattern has been identified and a test is available to detect this gene abnormality. For the most current information on this work and the test, consult Dr. Kate Meur's website.

Signs of HCM can be as subtle as a lack of appetite. Observant owners often note an increase in the resting respiratory rate and weight loss. Because cats tend to hide signs of disease until they are very sick, you should check in with your veterinarian when you see subtle signs, such as those that persist for more than a day or two.

There is no surgical treatment or definitive medical therapy to cure HCM. Medications are often prescribed for cats with congestive heart failure, rapid heart rates (be sure that it is an issue at home, as well as at the clinic, because normal cats visiting the clinic will often have high heart rates), or clots or high risk of clots to the legs.

If there is fluid in the lungs, a diuretic and possibly an ACE inhibitor will be prescribed. If there is fluid in the chest, the veterinarian may have to physically drain the fluid from the chest (prior to beginning treatment and intermittently thereafter).

At present, the best we can hope for in cats that are not showing clinical signs is that they will not develop them. There are no medications that alter the course of -- or cure -- HCM.

Prognosis is not easy to predict. Many cats can live a long time with HCM and never need medications. Others will die suddenly or progress to develop congestive heart failure. The worst outcome, in terms of discomfort and frustration because of a lack of proven ways to prevent the first or future recurrence, is clots to the limbs or other organs.

Your veterinarians, working with a veterinary cardiologist, are your best guide to diagnosis and treatment for your cat.

Dilated Cardiomyopathy

Dilated cardiomyopathy used to be a much more common disease in cats. In the late 1980s, it was discovered that insufficient taurine in feline diets was the cause of most cases of dilated cardiomyopathy. Taurine is an amino acid that cats cannot make on their own. It is essential that the food you feed your cat contains adequate amounts of taurine. This is one reason why home-cooking for cats is so risky.

In dilated cardiomyopathy, the heart muscle weakens and the heart becomes very large and contracts weakly.

As with HCM, diagnosis requires an echocardiogram. Taurine can be measured by sending blood to the laboratory. To be valid, taurine must be assessed PRIOR TO BEGINNING TAURINE SUPPLEMENTATION. Your veterinarian will also look in your cat's eyes to look for other signs of taurine deficiency, such as central retinal degeneration.

If taurine deficiency is the cause of cardiomyopathy, most cats who survive for more than 7 days after beginning taurine supplementation will recover and most will ultimately need no ongoing therapy if the heart muscle returns to normal. This usually takes 4 to 6 months. During the initial treatment period, and for long as it takes for the heart muscle to recover, congestive heart failure must be aggressively managed and the risk of clots to the limbs and other organs (as well as sudden death) are always a concern as discussed above under HCM.

Restrictive Cardiomyopathy and Unclassified Cardiomyopathy

The less well understood forms of cardiomyopathy also require diagnosis by echocardiography. There are no specific known causes or treatments.

Affected cats are also at risk of congestive heart failure, sudden death, and clots to the limbs and other organs.

To Breed or Not to Breed?

In HCM, an autosomal dominant pattern of inheritance has been documented. Not only does that mean it can be passed on genetically, but also that males and females are equally affected; every affected cat will have at least one affected parent; and all carriers of even a single copy of the gene can show the disease and transmit a mutant gene to half of their offspring.

Recently, a likely gene and affected protein for HCM have been identified. The DNA test for HCM is effective enough that if a cat has the mutation, it will be detected. So what does this mean if you want to breed purebred cats?

If the DNA test is positive for that mutant gene, the cat may develop HCM. As in people, not all individuals with the mutation will develop the disease. Breeding recommendations are currently across the board. Some people currently recommend that if the cat has two copies of the gene, the cat should not be used for breeding. Rather, the cat should be screened periodically to see if he has the disease. But if the cat has one copy of the gene, he should also be screened periodically for the disease, although his status for breeding is much better.

On the flip side, some veterinarians feel that any cat with the mutation should be spayed or neutered. However, the gene pool for purebred cats is pretty small, which colors all breeding considerations. If all the cats with the mutation in one generation are not bred, you might end up with far too much inbreeding, which would ruin the breed anyway. Therefore, some people recommend that cats who have one copy of the mutation and who have no clinical evidence of the disease may be used to breed to a mutation-negative cat. Offspring of that cat should be carefully evaluated and, if possible, a mutation-negative kitten should be used for a breeding replacement.

Before breeding your cat, consult a cardiologist or geneticist to be sure you understand all of the possibilities of what could happen.

A veterinary cardiologist is most knowledgeable about all forms of cardiomyopathy and can help the most.