

FELINE HYPERTENSION

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UNDERSTANDING HYPERTENSION

Hypertension, or high blood pressure, has only been recognized as a serious problem in cats in the last ten years. As in people, high blood pressure can be an insidious disease, a silent killer among cats. Often, no warning signs can be detected until it is too late. Although high blood pressure can occur in cats of any age, it is most often linked with diseases associated with senior cats. Primary, or essential, hypertension, common in people but unusual in cats, is high blood pressure with no underlying cause. We have limited understanding of primary hypertension because it is so uncommon. Secondary hypertension, which is caused by some other disease, is much more common in cats. The two most common causes are kidney disease (chronic renal failure) and hyperthyroidism (thyroid hormone excess).

SYMPTOMS

The most obvious sign of hypertension in cats is acute blindness caused by hemorrhage from a ruptured retinal vessel in the eye. This results in the detachment of the retina, which in turn leads to permanent blindness. Other problems caused by high blood pressure include kidney injury, heart failure, and neurological disease (stroke-like symptoms, seizures, dementia).

DIAGNOSIS

Diagnosis of hypertension in cats is not difficult, but it does require specialized equipment to perform this non-invasive procedure. Because cat arteries are much smaller than human arteries, sphygmometers, which are used to measure blood pressure in humans, cannot be used. Instead, a Doppler device is used to send a very high frequency sound (ultrasonic) wave to an artery which is then bounced back to a receiver. The sound wave bounced off an artery during systole (heart contraction) returns faster than the sound wave bounced off an artery during diastole (heart relaxation). The difference in the speeds at which the waves are returned produces a sound that can be

amplified and heard by a veterinarian to help measure blood pressure.

A small amount of fur over the selected artery is clipped, usually a tail or foot artery. A contact gel is placed on the clipped area. The Doppler device is attached over the area and a small inflatable cuff is placed around the limb. A gauge that is attached to the cuff inflation tubing measures the pressure in the cuff. When the cuff is inflated to a pressure greater than the artery pressure, blood flow ceases and so do the pulse sounds. When the cuff is deflated, the pulse sounds begin again when the pressure in the cuff exactly equals the pressure in the artery. This is the systolic pressure. This statistic is all we usually measure in cats.

Blood pressure which is measured in millimeters (mm) of mercury (Hg). In cats, the systolic pressure should be between 100 and 160 mm Hg. Pressures greater than 200 mm Hg are clearly abnormal and warrant treatment. Those between 160 and 200 mm Hg are in a gray zone and should be interpreted cautiously. Because of technical difficulties in feline blood pressure measurement, diastolic pressure is usually not measured. However, systolic pressure alone usually provides the information needed for accurate diagnosis and treatment. Cats that are at high risk for developing hypertension should be routinely screened for the disease. This especially includes cats with any evidence of ocular (eye) hemorrhage, kidney disease, hyperthyroidism, cardiac disease or unexplained neurological symptoms.

TREATMENT

Because the effects of hypertension are often severe and irreversible for a cat, it should be treated. The best way to treat hypertension is to first determine, if possible, why a cat has it in the first place, and then to treat that underlying problem. Dietary modifications (e.g. low sodium diet) and weight control also help; however, most cats with high blood pressure will need drug therapy as well. Many effective medications are available to treat high blood pressure in cats. Fortunately, most of them are reasonably safe, convenient, and relatively inexpensive. And often, they can be given just once a day. After a cat is diagnosed with hypertension and treatment begins, it is important to monitor the cat's blood pressure on a regular basis to ensure that it is staying under control, and isn't too high or too

low. Any underlying diseases, such as kidney failure, should also be monitored at the same time.

Because of its insidious nature and its serious consequences, if your cat has any evidence of ocular hemorrhage, kidney disease, thyroid disease, cardiac disease, or unexplained neurological symptoms, ask for your cats blood pressure to be checked.