

Heart Disease in Ferrets

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Heart disease is a frequent finding in ferrets over 4 years of age. The veterinarian is often faced with other common geriatric conditions that can complicate diagnosis and therapy of heart disease (see "insulinoma" and "adrenal gland disease" articles). It is important to be able to identify, treat, and monitor other disease processes that may occur along with the heart condition.

The most common cause of heart disease in the ferret is an abnormal heart muscle or "cardiomyopathy" (from the Latin "cardio" or heart, "myo", or muscle, and "pathy", disease). Cardiomyopathies in ferrets (and cats and dogs) come in 2 different forms: one that results in a thin and "flabby" heart wall (dilated cardiomyopathy) and one that results in a thickened heart wall (hypertrophic cardiomyopathy). The dilated heart version is the most common heart disorder observed in ferrets. The heart loses its normal shape, becoming larger and rounder. This is readily seen on an XRAY image. The function of the heart becomes compromised as well: the normally strong heart muscle becomes progressively weaker and cannot keep up with the bodily demands for oxygen-rich blood. Affected ferrets may show no signs initially but in time they lose strength. Fluid may build-up in the lungs ("edema") and cause labored breathing.

The other form of heart disease occasionally observed in ferrets is hypertrophic cardiomyopathy or the thickened heart muscle form. While the heart often retains its normal shape on the outside, the heart wall becomes thicker and encroaches upon the inside heart chambers, making them smaller. These smaller heart chambers cannot pump blood as efficiently and often respond by beating very fast to try and compensate. These ferrets often have no clinical signs of trouble before they go into a crisis.

Ferrets with heart disease may not have symptoms early on in the disease. In time, these ferrets begin to slow down or can go into complete heart failure. Ferrets that are in heart failure show weakness, lethargy, loss of appetite, rapid breathing, and rapid heart rates. Some ferrets have difficulty walking in the rear legs; this may be from weakness, or poor cardiac pumping. Coughing is not usually heard.

There are several diagnostics tests that should be performed on a ferret with suspected heart disease. Because of the high incidence of multiple conditions in the geriatric ferret, e.g. insulinoma or lymphosarcoma, all ferrets should have blood panels (complete blood count and biochemistry) performed. XRAY images, or "radiographs", are essential. The heart size and shape is evaluated and the lungs are checked for fluid buildup. Electrocardiography (ECG) is done if an abnormal heartbeat is detected. The normal heart rate for the non-sedated ferret is 180-250 beats per minute. Fear and pain can increase the heart-rate temporarily. Echocardiography (sonogram) is the most important part of the cardiac workup in the ferret. The sonogram supplies information on the size, shape, and function of the heart chambers.

Treatment is similar to the protocol used in people: diuretics (furosemide or Lasix®) to reduce blood volume and fluid buildup, blood vessel relaxers (enalapril or Enacard® or Vasotec®) to decrease the heart's workload, agents to enhance heart contraction (digoxin or Lanoxin®) and drugs to slow down the heart rate (atenolol or Tenormin®) and improve function (diltiazem or Cardizem®). These drugs are not all used in every case; the individual ferret needs a drug protocol designed specifically for his or her particular type of heart condition.

Long term prognosis for ferrets with dilated cardiomyopathy is guarded. With early diagnosis and proper therapy, many of these ferrets can have a good quality of life for many months. Maintenance of health requires periodic veterinary visits to monitor the heart and adjust drug doses.

The prognosis for the hypertrophic cardiomyopathy ferrets is not as clear cut. These ferrets may seem totally normal (even to a veterinarian's stethoscope) and then suddenly "crash" or rapidly de-compensate. This is unpredictable but fortunately does not happen often.

Ferrets in heartworm regions of the country (i.e., warm enough for mosquitoes) are susceptible to heartworm disease if they spend a lot of time outdoors. This parasitic infection can result in severe cardiac disease in the ferret. Because of the relatively small ferret heart, even one or two worms have serious consequences. Treatment of heartworm disease in ferrets is possible but carries a guarded prognosis. Like in the dog, prevention is possible using ivermectin once a month in small ferret doses.