

CONGESTIVE HEART FAILURE

Clinical signs of CHF that the owner may notice are exercise intolerance, fatigue, occasional fainting (syncope), depression, lethargy, cool feet/legs, respiratory distress and cough.

CHF has many different causes. It may be related to an abnormal rhythm (arrhythmia) or abnormal heart sound (murmur). Heart murmurs may be caused by either an insufficient valve or a stenotic valve. An insufficient valve does not close normally and will let blood leak leading to a volume overload. A stenotic valve is one that doesn't open correctly creating an unusually small orifice through which the blood must flow creating pressure overload. Valvular problems tend to start in small breeds in middle age and are slowly progressive.

CHF may be due to a failure of the heart muscle (myocardial failure/cardiomyopathy). Some breeds of dog tend to get a large flabby heart called dilated cardiomyopathy (DCM) (Doberman pinschers and Boxers). Cats tend to get a large, thickly muscled heart called hypertrophic cardiomyopathy (HCM). Both of these conditions make the heart ineffective. Dogs with DCM often do not show any clinical signs of the disorder, but suddenly die.

All of these problems make the heart ineffective. It is unable to pump enough blood to keep up with the body's demand. The body responds to cardiac inefficiency through peripheral and central compensatory mechanisms. These mechanisms are designed to increase the amount of blood put out and to increase the effect of the blood that is delivered. Peripheral mechanisms include constriction of the vessels, skeletal muscle atrophy, and sodium and water retention by the kidneys. Central mechanisms include increased heart rate, increased heart muscle contractility, and increased cardiac muscle growth. These compensations lead to the clinical signs exhibited by the CHF patient.

Clinical signs of CHF depend on which side of the heart is affected. If the right side of the heart is affected, signs include edema or fluid build up in the subcutaneous tissues of the limbs, ascites (free fluid in the abdomen), distention in the jugular veins and pulses in the jugular veins. When the left side of the heart is affected, signs include fluid build-up in the lungs (pulmonary edema) or around the lungs (pleural effusion), difficulty breathing (dyspnea), and blue/grey mucous membranes (gums) (cyanosis). Both sides of the heart can be affected at the same time. In this case, the patient may have a combination of these signs.

Diagnosis of CHF starts with the owner noticing a problem. A physical examination is performed. X-rays are indicated to evaluate the size of the heart relative to the chest and the relative sizes of the individual chambers. Bloodwork is indicated to reveal possible disorders such as gland problems or kidney disease. An electrocardiogram (ECG/EKG) is indicated to determine chamber enlargement and evaluate arrhythmias. Ideally, an echocardiogram (ultrasound/sonogram of the heart) should be performed by a cardiologist delineate the specifics of the condition. It is important to know the specific type of CHF a patient has because they may need to be treated differently.

Treatment of CHF involves changing to a low salt diet. The body is keeping more sodium than it needs. Diuretics are used to remove the fluid that has built up in the lungs or the abdomen, etc. Drugs called ACE inhibitors (Enacard) may be used to alter the levels of certain hormones. Digitalis may be used to increase the strength of heart muscle contractions (in cases of DCM for example). In cases of HCM, drugs called beta blockers and calcium channel blockers may be required.

Unfortunately, once diagnosed with CHF, damage has already been done to the heart. It is generally not reversible. Signs are progressive, but treatment will increase the quantity and quality of life for your pet. Treatment will continue for the rest of your pet's life. We should see the CHF patient often (at least twice yearly, more frequently when clinical signs change) to assess the efficacy of treatment and to decide if and when other treatment modalities may be necessary.