

SADDLE THROMBUS

Feline Aortic Aneurism= Saddle Thrombus

Saddle thrombus formation is a serious complication of feline heart disease (particularly hypertrophic cardiomyopathy) where blood clots tend to form in the atria due to abnormal blood flow. When part or all of the clot breaks off, it travels through the heart and down the aorta where if large enough it will become lodged at the end of the aorta where the vessel separates to go down each hind leg. If the blockage is complete, the entire blood supply to the hind legs is cut off and the cat becomes paralyzed in the hind end shortly after. With partial blockages, the pulses are very weak due to decreased blood flow, but pain and paralysis are still evident. An analogy would be if you were traveling down a two lane highway and your car takes up all two lanes. Suddenly, the highway splits into two one lane roads and your car can't fit into either so it stops there blocking all other cars in back from gaining access to either one lane roads. An estimated 10-20 % of cats with cardiomyopathy will develop a saddle thrombus.

Symptoms

- History of heart disease
- Acute onset hind limb paralysis
- Very painful hind end- initially
- Loss of deep pain to hind legs as paralysis sets in
- Cold hind legs
 - Weak / no pulses in hind legs
 - Blue (cyanotic) nail beds
 - Panting, resp distress
 - Concurrent congestive heart failure

Diagnosis

Based on history, and physical exam. The veterinarian will feel for pulses in the hind legs and check the nail beds. In a cat with a saddle thrombus, the nail beds are purple or blue because the circulation has been cut off and the oxygen used up. The cat is often very painful initially, but as paralysis ensues, they lose all pain sensation to the limb. Approximately 50% of cats presented with a saddle thrombus are also in congestive heart failure- possibly triggered from the stress of throwing the clot or vice versa. A radiograph can quickly assess the heart and lungs and eliminate spinal trauma as a cause of the pain and paralysis- when owners suspect the cat was hit by a vehicle.

Treatment

Treatment is based on supportive care, and trying to restore circulation to the hind limbs. Cats are supported with IV fluids, pain medication and heparin to prevent further clot formation. Cats with no pulses and suspected complete blockage can be treated with either streptokinase or tissue plasminogen activator (TPA)- both are drugs which help dissolve the clot thus returning or improving hind limb circulation. However, reperfusion injury can be a life threatening complication when using TPA and streptokinase. Cats

with concurrent congestive heart failure are treated accordingly with oxygen, nitroglycerine, and diuretics. In cats whose heart disease has gone undetected, an echocardiogram should be performed to assess the type and degree of heart disease and the cat should be started immediately on cardiac medication

Prognosis

Cats with a saddle thrombus generally carry a poor prognosis for long term survival due to the underlying heart disease. The prognosis with saddle thrombus resolution varies, with a better prognosis for cats with a partial obstruction than those with a complete obstruction. Using streptokinase or TPA yields better results than heparin and acepromazine alone. The most critical period is the first 48 hours where acute death is common. If the clot has resolved in three days and the hind limbs are cold with no circulation, it is recommended to euthanize the cat before gangrene sets in.