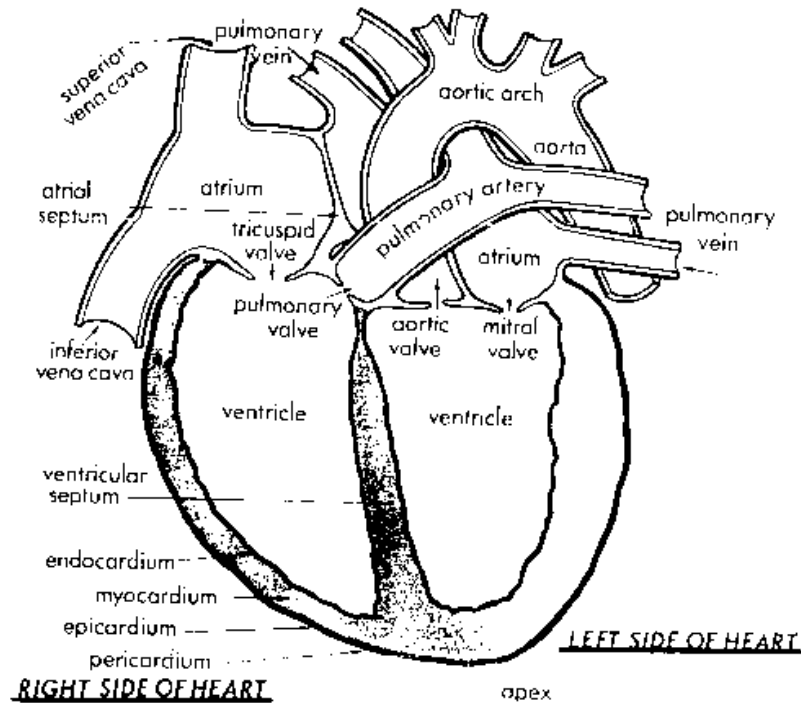


MITRAL REGURGITATION

OUTLINE OF A NORMAL HEART



Your dog has been diagnosed with mitral regurgitation (MR). This disease is caused by a degenerative process that occurs in most dogs as they age. In your dog, this process has caused the valve to leak.

In order to understand how this disease may affect your dog, it is important to understand normal circulation in the heart. Blood drains from the body into the right atrium where it passes through the tricuspid valve and into the right ventricle. From here, blood is pumped into the pulmonary artery and subsequently to the lungs where it picks up oxygen. The oxygenated blood then drains passively into the left atrium, through the *mitral valve*, and into the left ventricle. The left ventricle then pumps the blood through the aorta and back to the body.

In dogs with MR, the leak in the valve can progressively worsen so that the left ventricle is pumping a significant amount of blood backwards through the leaky valve. Since it also has to pump a normal amount of blood forwards, the left

ventricle slowly enlarges. Also, the left atrium enlarges to accommodate the backflow through the mitral valve. Left atrial enlargement is indicative of abnormally high pressure in the left atrium. As the pressure in this chamber increases, it is transmitted back to along to the blood vessels in the lungs and, if the pressure is high enough, fluid can exude into the alveoli (air sacs) in the lungs. This is called pulmonary edema or congestive heart failure. In many dogs this causes a cough. However, some dogs don't cough when this occurs. Instead, they breathe faster (more than 40 breaths per minute) or with too much effort.

Dogs with MR should be monitored at home for a cough or an increase in respiratory rate (greater than 40 breaths per minute) or effort. If any of these occur, a chest x-ray should be taken to evaluate for the presence of pulmonary edema.

Depending on the stage of disease your dog is at, medications may be prescribed. Most cardiac medications can adversely affect the kidneys. For this reason, it is important to monitor kidney function with blood tests as new medications are introduced or dosage changes are made.

An echocardiogram (ultrasound of the heart) is necessary for definitive diagnosis of mitral regurgitation. An echo allows us to look on the inside of the heart and assess the heart's function. It will be repeated periodically over the course of your dog's disease to monitor for significant changes in heart function. Chest x-rays are often taken to evaluate for the presence of pulmonary edema. Some dogs develop rhythm disturbances secondary to their enlarged hearts. In these cases, an electrocardiogram (ECG) is done.

Thankfully, most dogs with MR feel good as long as their congestive heart failure is controlled. We will work closely with you and your veterinarian to ensure that your dog gets the best care possible.

Rocky Mountain Veterinary Cardiology, PC