

I don't know why cardiology has always been an interest of mine. My colleagues assert it's a "guy thing". I disagree, but I do admit my attraction to cardiology in part may have something to do with the fact that, unlike many other systems of the body, the heart system has a certain mechanical quality to it. Pets can face a myriad of cardiac conditions. Over the past two decades veterinary medicine has made remarkable progress in understanding and treating these cardiac problems. This month's column will address some of the more common heart problems our pets face and how they are identified and managed.

First, a word or two about how the heart works. Most people understand that the mammalian heart is a pump that is responsible for circulating blood around the body. Interestingly, the heart is actually made up of two pumps with two separate functions. The smaller of the two pumps (the "right heart") circulates blood to the lungs and back. This important circuit allows the blood to pick-up oxygen and release carbon dioxide. Upon returning to the heart the newly oxygenated blood enters the larger pump (the "left heart"), which subsequently pushes blood to the entire body and ultimately back to the smaller ("right heart") pump again. Each heartbeat denotes the simultaneous contraction of the small and large pumps. As with any effective pump, one-way valves are needed to ensure the blood flows through the pump in the proper direction.

Problems with the cardiac system of pets are many and varied. The discussion to follow will review heart problems that are acquired during the pet's life. This is in contrast to congenital heart problems, which are present at birth. In veterinary medicine the most common acquired heart problem stems from heart valve dysfunction, most notably, the Mitral valve. With age this valve can lose its ability to keep blood flowing forward, and in severe cases a substantial amount of blood will flow backward through the heart with each beat or contraction. When this happens the heart cannot deliver the appropriate amount of blood to the body and lungs. This, obviously, is no trivial problem. A pet with early mitral valve problems will usually look fine, without any signs of illness. As the valve problem progresses (and they almost always do) the pet will usually develop signs of cough, listlessness, exercise intolerance, poor appetite, and possibly weight loss. With a stethoscope your pet's doctor can usually hear an abnormal sound or "murmur" that would make him or her suspicious of Mitral valve disease. Currently valve replacement surgery is not routinely done in pets, but this doesn't mean we can't help them. Medications are available that in most cases can help the heart function more normally despite the faulty valve.

While the vast majority of acquired heart disease in pets is related to heart valve problems, sometimes the heart problem can be secondary to a dysfunction of the heart muscle itself. This type of heart disease is called cardiomyopathy. One form of cardiomyopathy, most commonly seen in dogs, results in a thinning and weakening of the heart muscle. In this case, the heart muscle has become too weak to move blood effectively around the body. Another form of cardiomyopathy, most commonly seen in cats, results in the heart muscle becoming too thick and stiff. This too results in a diminished ability of the heart to pump blood to the body and lungs. Cardiomyopathy, regardless of the type, can have many of the same symptoms as Mitral valve disease, so if

there is any concern about a pet's heart function a full cardiac evaluation is usually recommended. Treatment of pets with cardiomyopathy can be difficult. Some patients can do quite well, but most have a fairly guarded to poor prognosis for long-term survival.

The tools used to diagnose heart disease include a good stethoscope, chest X-rays, some lab testing, electrocardiogram (EKG), blood pressure measurement, and especially ultrasound (sonogram). Because ultrasound technology allows us, among other things, to see the heart in motion, measure its muscle wall thickness, and the strength of its contraction, it's no wonder this tool is critical to the accurate diagnosis of any heart disease.

In most cases the cause of heart problems in pets is not well understood. Unlike people, cats and dogs are not at risk for "heart attacks" caused by occlusion of blood vessels supplying the heart muscle itself. Genetics likely plays a large role. Whatever the cause, an annual check-up (or semiannual for older pets) with your veterinarian is the best way to assure an early diagnosis and effective management of cardiac disease in our pets. In some cases even a veterinary cardiologist may be able to help improve the quality and quantity of your pet's life. If you are concerned your pet may have a heart problem, or just want to be assured there are no hidden problems developing, have your veterinarian take a look. You, and your pet, may be thankful you did.

Dr. John Huebner practices companion animal medicine at Redwood Veterinary Hospital in Vallejo, CA. You can send your pet health questions to Dr. Huebner in care of the Vallejo Times Herald, (440 Curtola Parkway, Vallejo CA. 94590) or e-mail him via jvhuebner@earthlink.net.