NC STATE Veterinary Hospital

CLIENT INFORMATION SHEET: Degenerative Mitral Valve Disease in Dogs

What is Myxomatous or Degenerative Mitral Valve Disease? Canine myxomatous or degenerative mitral valve disease (MVD) primarily affects older, small to medium size dogs, although any dog can be affected. Predisposed breeds include Cavalier King Charles Spaniels and Dachshunds - although the genetics are being investigated, the disease is very common in small breed dogs as they age. Degenerative changes thicken the valve and it no longer is able to keep blood flow going in a forward direction. The thickened valve leaks blood in the backwards direction and as the disease and leakage progress, the heart enlarges. Though many dogs are affected in their later years, only about 25 – 50 % of those with MVD experience clinical signs of congestive heart failure (CHF, or fluid build-up within the lungs).

How is MVD diagnosed? A distinctive heart murmur heard with a stethoscope during the physical exam is the most common early sign of MVD. The murmur is caused by the leaky valve. Chest X-rays or an echocardiogram (ultrasound of the heart) or both are used to assess the severity of the leak, and the extent of heart enlargement. A blood test for heart disease (NTproBNP) can also be used to help determine the severity of the heart disease.

How is MVD treated? Treatment depends on the severity of the leaky valve and the degree of heart enlargement. Mild leakage with minimal or no heart enlargement is typically monitored at regular intervals without treatment (Stage B1). Dogs with significant heart enlargement (Stage B2) benefit from medication, such as pimobendan and an ACE-inhibitor, to delay the onset of CHF. Dogs that experience CHF (Stage C and D) require additional medication, and some dogs need to be hospitalized for heart failure treatment. Because medications control only the clinical signs of CHF and do not treat the primary valve problem, we are working on surgical methods to repair the valve itself. At this time, surgical treatment is not widely available, but the possibility of valve repair can be discussed with your cardiologist.

How is MVD monitored by my veterinarian and my cardiologist? Although an echocardiogram is often initially performed during the diagnosis, regular echocardiograms may not be needed, and chest x-rays may provide a more cost effective means of monitoring disease progression. Dogs that have experienced CHF are followed more closely with blood pressure and bloodwork, typically every 3-6 months or after medication changes.

How can I tell how my dog is doing at home? Dogs with minimal heart enlargement should be treated as normal dogs, requiring only usual (annual or semiannual) monitoring. The first signs of CHF often include shortness of breath, exercise intolerance, or cough – these signs should prompt a call and usually a vet visit. In dogs that have experienced an episode of CHF, monitoring the breathing rate during sleep or rest provides a sensitive indicator of how they're doing - normal is less than 36 breaths/min. The Cardalis phone app simplifies obtaining and tracking the breathing rate.

Is diet important? While some salt restriction (e.g. avoidance of high salt treats) is ideal for most dogs with significant MVD, and moderate salt restriction aids CHF treatment, it's important that your dog's appetite remains good, and his or her caloric and protein needs are met. Avoiding non-traditional grain free diets rich in legumes, such as lentils, chickpeas and green peas, is advised.

What is the prognosis with MVD? Many older dogs affected with MVD will not have their lifespan limited by their heart disease. The rate of disease progression varies, but it most often takes years before clinical signs of CHF develop. After CHF develops, dogs are expected to continue to have an excellent quality of life with treatment, and most survive for an additional 12-18 months, although their survival time varies widely.