

Mitral Valve Disease Information Sheet

The mitral valve acts as a seal on the left side of the heart between the atrial chamber (the filling chamber) and the ventricle (the pumping chamber), Figure 1. It is made of very thin but very tough tissue around the mitral valve orifice. The movement of the “free edges” of valve leaflets are limited by similar tough chords of tissue called chordae. When the ventricle contracts, the mitral valve should form a perfect seal, ensuring that the oxygenated blood is pumped around the rest of the body.

Mitral valve disease is a degenerative condition that causes the valve edges to become thickened and knobbly over time. In addition, the chordae weaken, stretch and sometimes break as a result of this disease. The result is that blood leaks back into the atrium when the left ventricle contracts. As the proportion of left ventricular blood that leaks into the atrium increases, the atrium, the ventricle and the mitral valve orifice enlarge to accommodate the increased volume of blood.

The dilation of the mitral valve orifice (mitral annulus)5 (m)-oln(al)2.6 DIP()11.3 th (v)-2 (al)2.6 (v)-2 ((e or)-6or)-6o

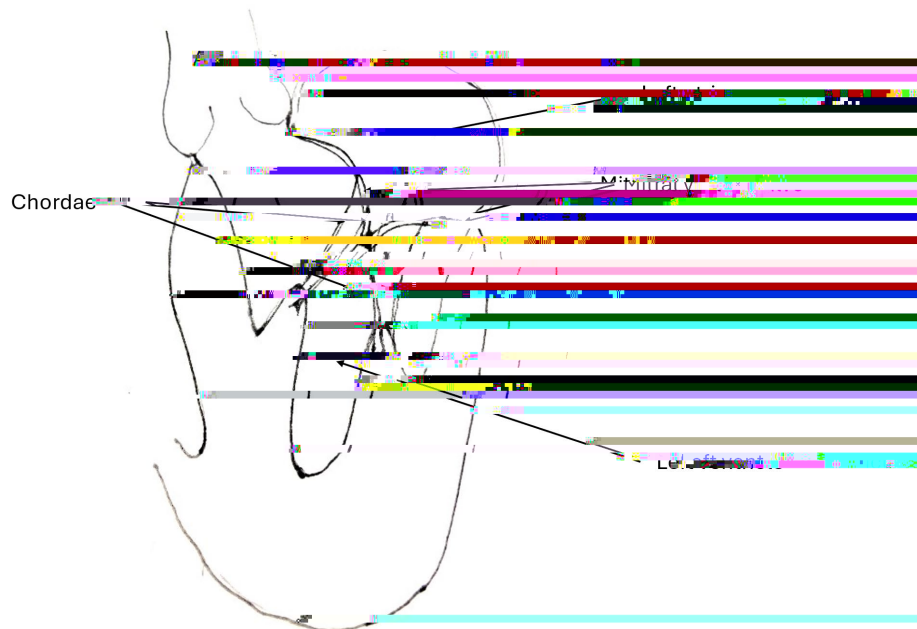


Figure 2. A diagram depicting rupture of the chords in mitral valve disease that usually tether the valve edges in place resulting in mitral valve regurgitation (leak) and secondary atrial, ventricular and mitral annular dilation.

ACVIM classification of myxomatous mitral valve disease:

Medical management

Medical therapy consists of using a drug called Pimobendan, typically before heart failure has developed (Stage B2). This has been shown to delay the onset of heart failure in affected dogs as well as prolonging the life expectancy of dogs that have had episode(s) of heart failure. Once an episode of congestive heart failure (fluid on the lungs) has occurred (Stage C), a diuretic drug such as Frusemide, Torasemide and/or Spironolactone, are given, to help remove the fluid from the lungs.

Other medication such as Benazepril are usually also prescribed at various points during the disease, which amongst other things, helps to prevent an increase in blood pressure. Unfortunately, medical therapy can only slow the progression of the disease, and the condition will continue to worsen over time. The average l

Surgical treatment

The aim of surgery is to reduce the volume of leakage through the valve, and thus enable the heart to remodel, towards normal size (i.e. back to B1). To achieve this, a valve repair is performed. This consists of replacing any ruptured or stretched chords with artificial chords made from Gore-Tex (Figure 3). A purse-string suture (annuloplasty) is also inserted around the valve annulus to draw it back down to a more normal size (Figure 4). These two steps combined improve the contact between the valve leaflet edges, reducing the leakage that can occur.

This repair is unlikely to make the valve "perfect", so some valve leakage is still expected but, in most instances, this is a much smaller leak than the dog had previously. To perform the surgery, the heart must be stopped and opened so a heart-

advanced Stage-B2 and Stage-C and Stage-D. Dogs that have progressed into Stage-D can recover very well from this procedure but their chance of survival is a little lower than dogs with stages B2 and C.

More information as to what to expect as an owner of a pet having open heart surgery is sent to you once a