Imaging of Myxomatous Valvular Disease

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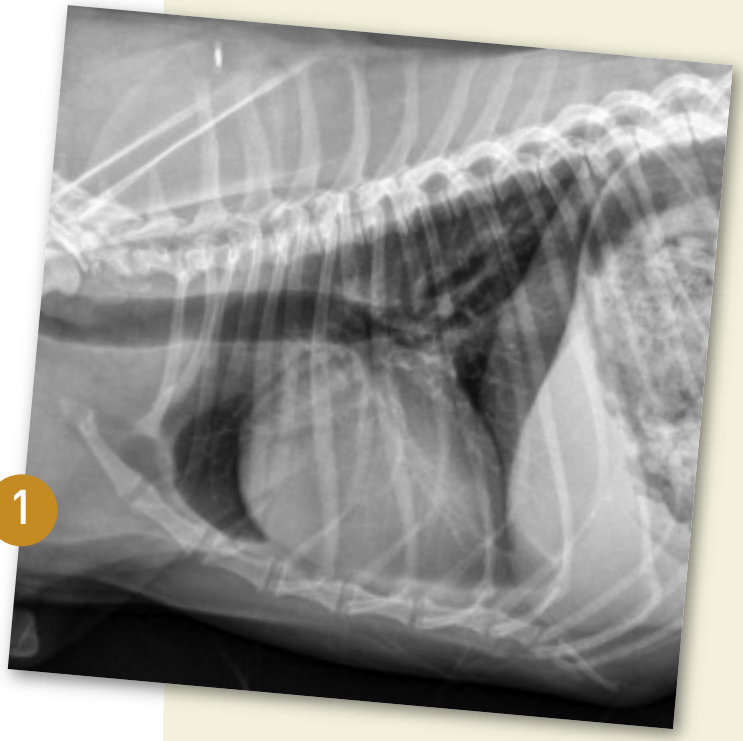
Myxomatous valvular degeneration (MVD) or endocardiosis is the most common acquired heart disease in dogs. MVD usually affects the mitral valve, and auscultation typically reveals a holosystolic murmur that is heard best at the left apex. Although a rough correlation has been found between murmur intensity and MVD severity in the Cavalier King Charles spaniel,[1] severity of mitral regurgitation should not be assessed by murmur intensity alone.

Many factors influence regurgitant murmur intensity, including the pressure difference between the ventricle and the atrium; size, shape, and location of the regurgitant orifice; direction of the regurgitant jet; blood viscosity; size, shape, and contractility of the left ventricle; and the sound transmittng characteristics of the lung and chest wall.

Although a diagnosis of MVD can frequently be based on signalment and murmur, evaluation of the severity of regurgitation should include thoracic radiography, echocardiography, or both.



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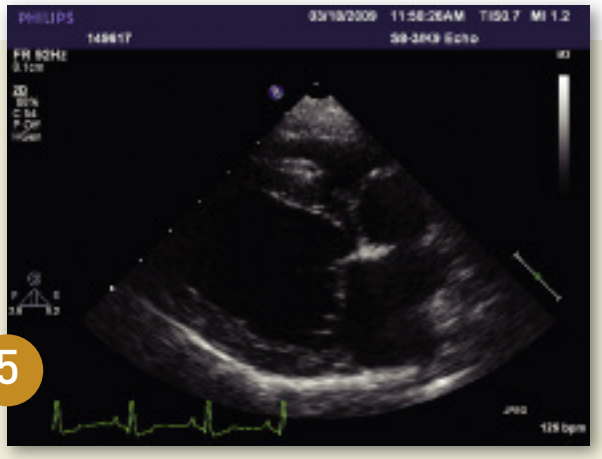

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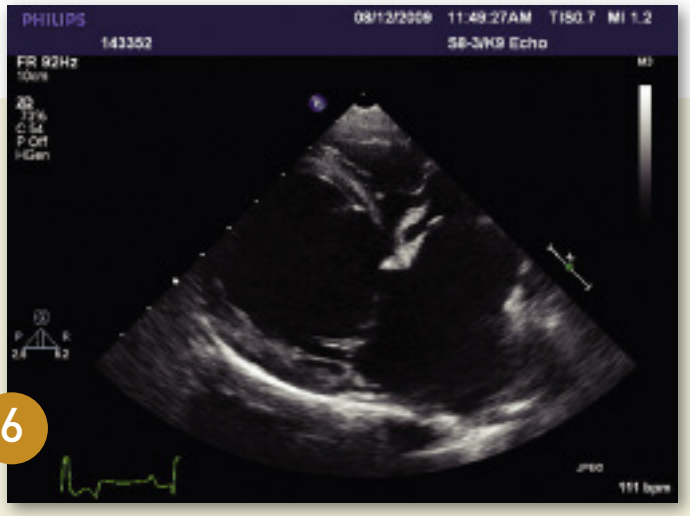

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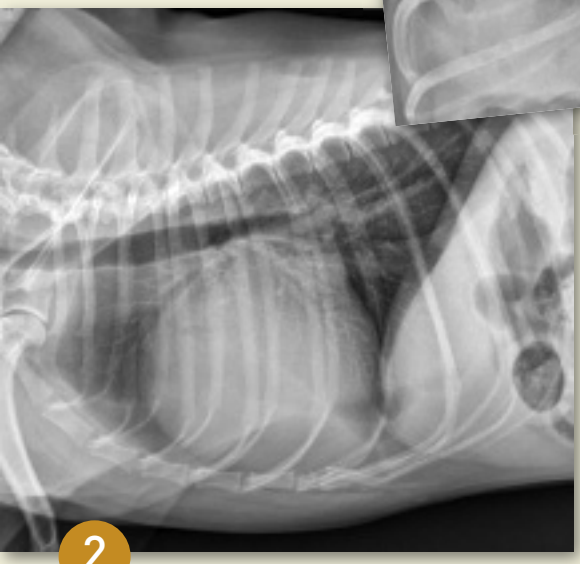
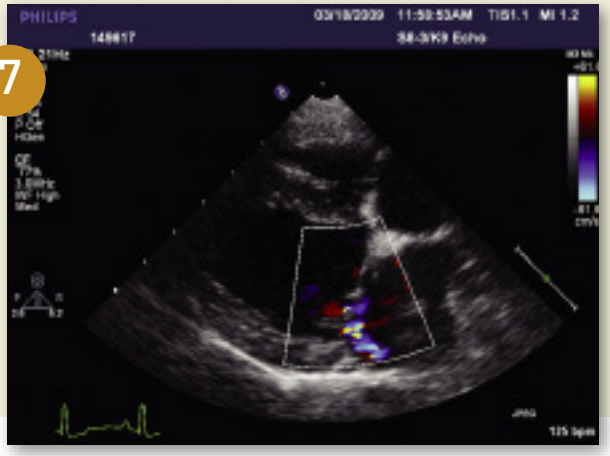
Two-dimensional echocardiograms (right parasternal long-axis views) reveal mildly thickened mitral valve leaflets with a nearly normal-sized left atrium in dog 1 **(Figure 5)**. Dog 2 **(Figure 6)** has thicker valve leaflets with severe left atrial enlargement.

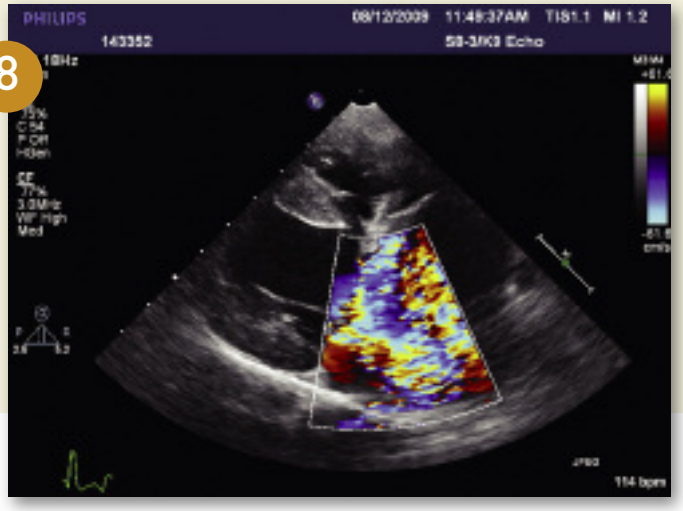


See Aids & Resources, back page, for references and suggested reading.

Right lateral **(Figures 1 and 2)** and dorsoventral **(Figures 3 and 4)** radiographs of 2 dogs with grade 3/6, holosystolic, left apical murmurs. Dog 1 **(Figures 1 and 3)** has mild left atrial enlargement; dog 2 **(Figures 2 and 4)** has a severely enlarged left atrium.

Color-flow Doppler echocardiography (right parasternal long-axis views) reveals a narrow, high-velocity mitral regurgitant jet in dog 1 **(Figure 7)**. Dog 2 **(Figure 8)** has a much wider jet of similar velocity that fills the severely enlarged left atrium.





MVD = myxomatous valvular degeneration