



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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Ventricular Septal Defect

Issue Description

A ventricular septal defect is a hole (or defect) in the muscular wall of the heart (the septum) that separates the right and left ventricles.

Other Names

VSD

Causes

Before birth, the heart starts out as a single tube which gradually differentiates into 4 chambers during embryological development. Abnormalities can arise at several steps in the process, resulting in defects in the muscular walls that normally separate the heart into the right and left atria, and the right and left ventricles. The result is abnormal blood flow in the heart with varying effects in the dog, depending on the size and location of the defect.

Symptoms

Signs associated with this disorder may develop within months or years, depending on the significance of the defect, and include shortness of breath, exercise intolerance, sudden death due to an abnormal heart rhythm, or, with a reverse shunt, cyanosis (grey instead of pink mucous membranes). Your veterinarian will monitor your dog's progress and recommend treatment as required. This may include medications to support the heart and to reduce congestion in the lungs, a special diet, exercise restriction, and precautionary antibiotic therapy before procedures such as dentistry.

Among puppies with large VSDs, it is probable that many pass away early, before 8 weeks of age or before they are examined by a veterinarian.

Diagnosis

Often, as with most heart defects, the first indication of a problem is when your veterinarian hears a heart murmur on your pup's physical examination. Sometimes there is exercise intolerance or respiratory difficulty, but this is usually in an older dog or a young pup with a large defect where congestive heart failure has already developed.

Some low-grade murmurs are "innocent" and disappear by 6 months of age, but if the murmur is significant, your veterinarian will suggest a diagnostic workup to determine the cause. S/he will listen very carefully to your dog's heart to determine where the murmur is loudest and when it occurs during the cardiac cycle. Other diagnostic aids include chest x-rays and an electrocardiogram (ECG). Echocardiography (an ultrasound) is generally required to determine the location and severity of a ventricular septal defect.

Treatment

Signs associated with heart disease are treated when and if they develop. Treatments include medications to support the heart and to reduce pulmonary congestion, a special diet, exercise restriction, and precautionary antibiotic therapy before procedures such as dentistry.

There are 2 current surgical options available. Where a significant defect has been identified, but before right-to-left shunting has developed, pulmonary artery banding can be done to decrease the blood flow across the defect, thereby reducing the overload on the lungs and the left heart. Another procedure involves actual repair of the defect, but this requires open heart surgery and carries a high risk.

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