



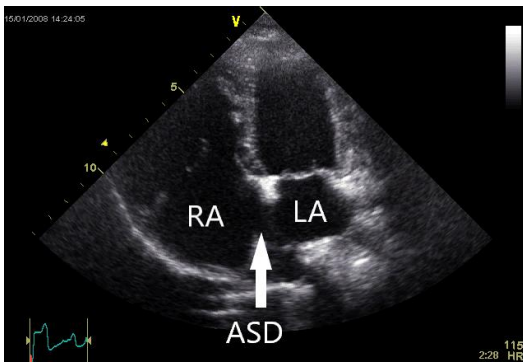
EAST COAST VETERINARY CARDIOLOGY

Atrial Septal Defects

Atrial septal defects (ASDs) are a type of congenital cardiac defect occasionally diagnosed in dogs and cats. They appear to be more common in cats where they are often diagnosed with other concurrent congenital cardiac defects. Breeds that have been more commonly diagnosed with ASDs include Boxers, Standard Poodles, Samoyeds and Dobermans. Feline studies have shown that Persian cats may be more at risk for ASDs. They are typically diagnosed during echocardiography and sometimes are incidental findings in older animals when they are being evaluated for acquired cardiac disease.

ASDs are characterized by a hole present between the left and right atrium. ASDs allow for communication between the atria and therefore flow of blood between these two chambers. Generally, the flow of blood is from the left into the right atrium leading to volume overload of the right heart chambers. This may place affected animals at risk for right sided congestive heart failure (free fluid present in the chest and/or abdominal cavity), arrhythmias and pulmonary hypertension. Pulmonary

hypertension is a condition where the blood pressure is much higher than normal in the pulmonary arteries. This can lead to reversal of blood flow across the ASD leading to mixing of deoxygenated blood from the right atrium with oxygenated blood in the left atrium. This deoxygenation of systemic blood leads to hypoxia and cyanosis.



ASDs are best managed surgically. To date, several veterinary institutions have closed an ASD with a minimally invasive procedure where a large occluder (plug) is positioned across the defect to limit the amount of blood flow. Medical

management is generally warranted for those patients who have developed clinical signs related to their ASD (such as the treatment of heart failure and pulmonary hypertension). Prognosis is dependent on the size of the ASD and the degree of shunting across the defect.

The image above shows a large ASD in a dog from an echocardiogram. LA = left atrium, RA = right atrium, ASD = atrial septal defect. The right atrium is larger than the left due to increased blood flow across the ASD. This has also resulted in dilation of the right ventricle (chamber on the top left side of the image).

