

Patent Ductus Arteriosus

Patent Ductus Arteriosus (PDA) is the failure of a blood vessel, the ductus arteriosus, to close just after birth. In the fetus, this vessel is normal and allows blood to bypass the lungs during development in the uterus. At birth this vessel should close within hours, directing blood flow to the lungs. Pets diagnosed with a PDA have a greater than 50% mortality rate by one year of age if left untreated.

PDA is the most frequently diagnosed congenital defect in dogs and is sometimes seen in cats. The most commonly affected breeds are Maltese, Poodle, Pomeranian, Keeshond, Bichon Frise, Chihuahua and German Shepherd. PDAs are more commonly diagnosed in females.

Symptoms

A PDA causes a loud, continuous heart murmur, that can be felt through the chest wall. Symptoms include weakness, lethargy, failure to thrive, labored breathing and congestive heart failure (CHF).

Diagnosis

A cardiac ultrasound (echocardiogram or echo) will allow the cardiologist to assess the structure and function of the heart. The PDA can be visualized and measured with color flow Doppler. Chest x-rays may be needed if the pet is in CHF.

Treatment

Based on the size of the patient one of two available procedures are available:

Catheterization- this non-invasive procedure is recommended in most dogs. A small incision is made on the inside of the right hind leg. A long catheter is inserted into the femoral artery and passed from the hind leg into the abnormal vessel using fluoroscopy. A device called an Amplatz Canine Ductal Occluder (ACDO) is then deployed to stop the abnormal blood flow through the PDA.

Surgical Ligation- Very small dogs and cats require open chest surgery to tie off the vessel. This procedure requires surgery within the chest cavity but does not require open heart surgery. Your cardiologist will be

able to recommend a surgeon who is experienced with this complicated procedure.

Some pets may require medical treatment of CHF prior to surgery. The cardiologist will determine what treatment, if any, is required. Pets with very large PDAs may require emergency surgery to help control their congestive heart failure symptoms.

Prognosis

Most dogs and cats that undergo correction of their PDA have good to excellent long term prognosis, and most will lead a completely normal life after surgery. Pets that are in congestive heart failure prior to surgery may have to remain cardiac medications long term. It is important to correct the PDA prior to the onset of congestive heart failure.