



PATIENT

Ralph Leonard

SPECIES

Canine

BREED

American Staffordshire Terrier

SEX

Male Neutered

AGE

3 years

WEIGHT

30.8lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Wignall Animal Hospital

REFERRING VET

Dr. DeMarco

INVOICE

25313

DATE

7/14/22

PRESENTING CLINICAL SIGNS

History: New grade II/VI systolic murmur; no clinical signs. Diet history: Science Diet Puppy until 1.5 years, then Science Diet Adult, sensitive skin. BP: 125, 128, 133mmHg. *Sedated with butorphanol.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.

Left ventricle: The LV diameter is normal. Borderline myocardial function. LV wall thicknesses are normal.

Left atrium: The left atrium is normal.

Mitral valve: The mitral valve is normal with trivial central mitral regurgitation.

Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Mildly elevated aortic outflow velocity; laminar flow. No aortic insufficiency.

Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.

Right atrium: Normal RA dimension.

Tricuspid valve: The tricuspid valve appears normal with trivial tricuspid regurgitation. Normal velocity.

Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow. Continuous flow detected with color doppler in the distal pulmonary artery in the region of the ductus arteriosus. A PDA is visualized; L-R (max recorded velocity 4.0m/s). Trace PI.

Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

Heart rhythm: ECG reveals a sinus rhythm with an average HR of 80bpm.

2-Dimensional Measurements

Ao diam (cm)	2.3
LA diam (cm)	3.0
LA:Ao (Swe)	1.3
IVS thickness (cm)	1.1
LVID diastole (cm)	4.6
PW thickness (cm)	1.1
LVID systole (cm)	3.3
FS (%)	28

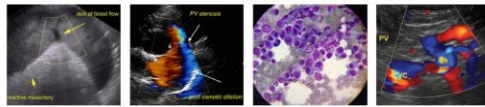
Doppler Measurements

PV Vmax (m/s)	0.75
AoV Vmax (m/s)	1.77
MR Vmax (m/s)	NA
TR Vmax (m/s)	2.2
TR PG (mmHg)	20

INTERPRETATION OF THE FINDINGS

The cause of the murmur is a patent ductus arteriosus (PDA). This is a congenital condition where a blood vessel present in the fetus remains open after birth. When patent, this allows blood to recirculate through the lungs inappropriately. Most PDA cases will show evidence of volume overload, which is not appreciated in this case. The max velocity is slightly lower than typical of left to right shunts; however, no bidirectional flow is identified and this is likely an underestimation. It is also worth noting that the LV function is borderline depressed. Avoid grain-free or nontraditional diets lifelong in this case. No additional issues are seen and the LA is normal, indicating low risk for complication.

If left open, many PDA's will shorten lifespan, with risk for progression to CHF in the future. In this particular case, the PDA does not seem particularly hemodynamically



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significant without volume overload at 3 years of age. Regardless, gold standard therapy is still closure of the vessel. This can be done interventionally or through a thoracotomy, and consultation with a local Cardiologist is recommended. Success rates for the procedure are generally high and will help give the best prognosis possible. If this option is declined given these findings, serial monitoring is advised as Pimobendan will likely be warranted in the future.

Going forward the patient may be at risk for progression to CHF, development of arrhythmias, PDA reversal due to development of pulmonary hypertension, exertional syncope, and/or sudden death at home.

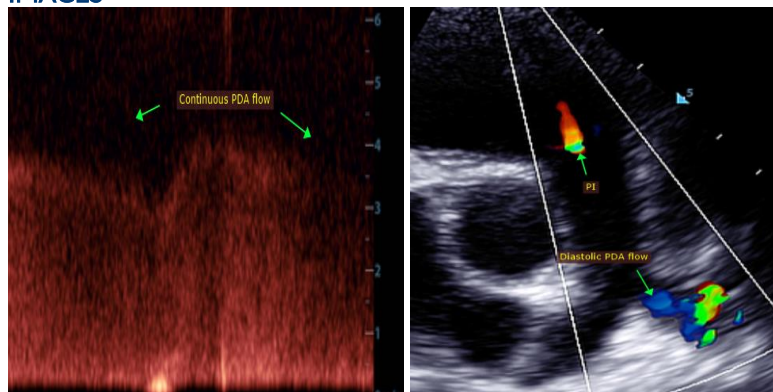
RECOMMENDATIONS

- No medications are indicated.
- Consider referral for surgical consultation if elected.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Mild activity restriction is advised.
- Avoid nontraditional diets lifelong.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Elective anesthesia is not advised prior to PDA closure.

PLAN

- If surgery is declined, recommend recheck exam and echocardiogram annually, sooner if clinical signs arise (progressive cough, labored breathing, syncope, etc.).

IMAGES





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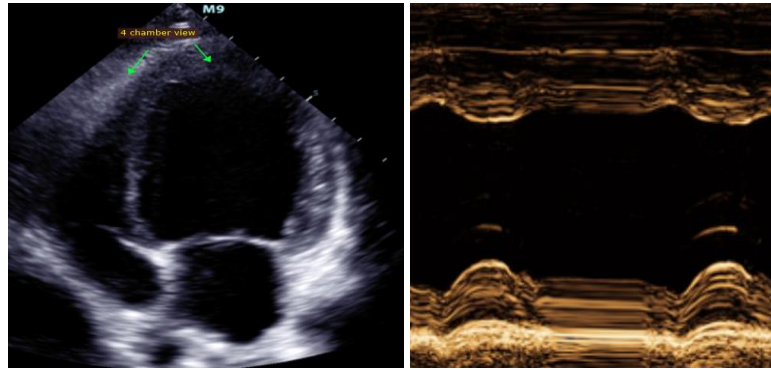
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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