


PATIENT

Matilda Ferris

PRESENTING CLINICAL SIGNS

History: Has had a heart murmur since birth. Very loud murmur with a thrill. Asymptomatic. Assess prior to spay. Received torbugesic IV before the scan.

SPECIES

Canine

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Continuous flow detected with color Doppler in the pulmonary artery in the region of the ductus arteriosus. High velocity shunt primarily L-R. Moderate volume overload of the left heart with decreased systolic function. Increased LV sphericity. Moderate LA dilation. Moderate central MR. Normal velocity. No obvious TR. Normal pulmonic outflow velocities; no pulmonic insufficiency. MPA and branch dilation. The PV appears normal. Mildly elevated aortic outflow velocities without AI. No pericardial or pleural effusion noted. No obvious cardiac masses.

BREED

Poodle Mix

SEX

Female Intact

CARDIAC CHART
AGE

6 months

WEIGHT

25lbs

INTERPRETED BY

 Maggie Machen Lamy,
 DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

 Potomac Mobile
 Veterinary Ultrasound

HOSPITAL NAME

 Glenkirk Animal
 Hospital

REFERRING VET

Dr. Jarrett

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CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.0	2.2	1.8	1.9	27	51	0.48
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	100	2.5	1.4	11.3	3.4	5.6	4.1
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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 and volume overloads the left heart chambers as is seen here. There is also moderate MR, which is likely secondary to annular stretch. It is important to note that other small congenital defects can be easily missed in these cases, and advanced imaging with a Cardiologist is recommended.

Given moderate LA/LV dilation, this patient is at risk for progression to CHF, arrhythmias, PDA reversal due to development of pulmonary hypertension, exertional syncope, and/or sudden



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death at home in the future. Monitor sleeping respiratory rates at home to screen for progression to CHF.

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Gold standard therapy is surgical closure of the vessel. This can be done interventionally or through a thoracotomy, and consultation with a local Cardiologist is recommended if sought (**highly recommended**). Success rates for the procedure are generally high, particularly given the asymptomatic status and a good chance for a normal life if closed appropriately. Regardless of whether or not surgery is elected, cardiac support with Pimobendan is recommended for long term benefit. If surgery is not an option, prognosis is guarded to poor long term and close monitoring is advised.

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Anesthesia for a spay should not be undertaken until the patient's PDA is addressed. If this is not an option, consider reassess in 6 months prior to the spay as the long term outcome may be significantly limited.

AGE

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Omega fatty acid supplementation and mild salt restriction may be of some long term benefit. Monitoring of sleeping breathing rates is recommended as the best way to screen for progression to CHF at home. Mild activity restriction is advised. Monitor at home for breathing changes, worsening cough, fainting episodes, exertional dyspnea.

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Plan: Institute Pimobendan 0.3mg/kgPO q12h. Recommend immediate referral to a local Cardiologist for surgical consultation. If not an option, reassess structure and function every 6 months lifelong to assess need for additional medications, sooner if clinical signs arise (progressive cough, labored breathing, syncope).

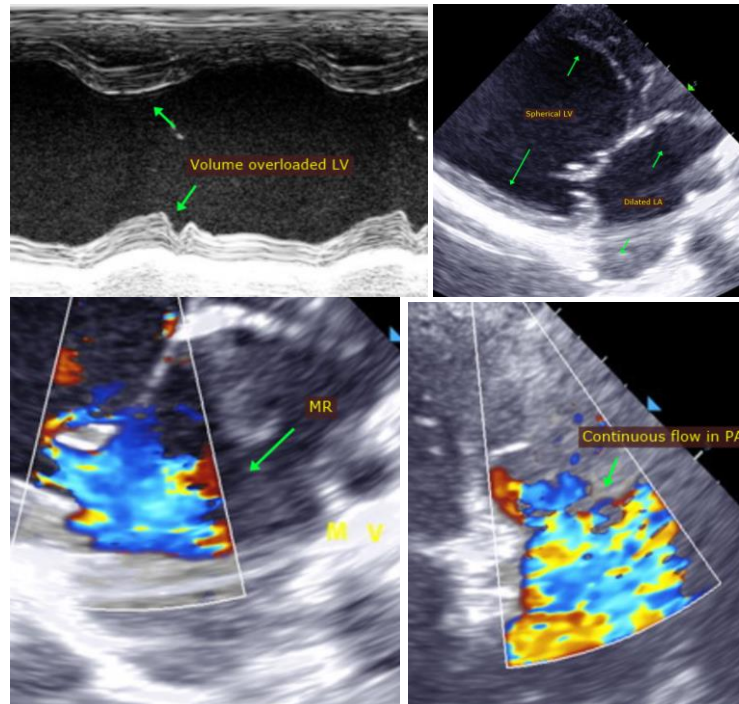
INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
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IMAGES

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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.

SPECIES

Canine

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.

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Maggie Machen Lamy, DVM
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