


PATIENT

Roxy GPSCO

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. BP: 111, 77, 93, 112, 118mmHg.

SPECIES

Canine

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets are mildly thickened with no obvious prolapse into the left atrial lumen. Mild to moderate eccentric mitral regurgitation with no left atrial dilation. Normal MR velocity. Normal LV with adequate myocardial function. Normal LV wall thickness. A VSD is visualized just below the aortic and tricuspid valves (0.45cm in diameter). The shunt is left to right on color flow imaging, although max velocity is not assessed. The tricuspid valve appears normal in form and function. Trace TR. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic valve is normal in morphology and mobility. The aortic valve appears largely normal. The LVOT is not well visualized. Mildly elevated aortic outflow velocity. Mildly elevated pulmonic outflow velocities. No aortic and mild pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac tumors.

BREED

Great Pyreneese Mix

SEX

Female Intact

AGE

11 weeks

CARDIAC CHART
WEIGHT

26lbs

INTERPRETED BY

 Maggie Machen Lamy,
 DVM DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Kelly Reschny, RVT

HOSPITAL NAME

 Graham Animal
 Hospital

REFERRING VET

Dr. Graham

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	4.9	NM	NM	1.2	35	65	0.5
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	166	2.5	3.6	11.8	2.4	3.5	2.3
*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

Multiple small abnormalities are visualized. First, there is a perimembranous ventricular septal defect (VSD) present. Flow appears left to right, although max velocity is not assessed. There is also an abnormal mitral valve with mild to moderate MR. This is concerning given the high risk for left-sided volume overload in such a young patient due to concurrent issues. Finally, mildly elevated aortic and pulmonic outflow velocities are noted without an obvious cause. This may suggest relative stenosis secondary to the shunt; however, advanced imaging may be warranted. No additional issues are identified.

INVOICE

27658

DATE

11/28/22



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Referral to a local Cardiologist is recommended for any patient with congenital disease, particularly with multiple defects. The goal of this would be to confirm the diagnosis and ensure no additional defects are missed. Based upon what is seen here, prognosis is guarded long-term as many small VSD patients will live a normal life free of complications.

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Treatment of an asymptomatic patient with a VSD is of no known benefit. Reassessment is advised prior to utilizing medications.

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Mild lifelong activity restriction is advised.

SEX

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Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

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Patient may be at risk lifelong for progression to left-sided congestive heart failure, development of arrhythmias, and/or sudden death. Monitor closely for any development of associated clinical signs, including changes in RR/RE, cough, syncope or significant exercise intolerance.

WEIGHT

26lbs

PLAN

Consider referral as discussed.

INTERPRETED BY

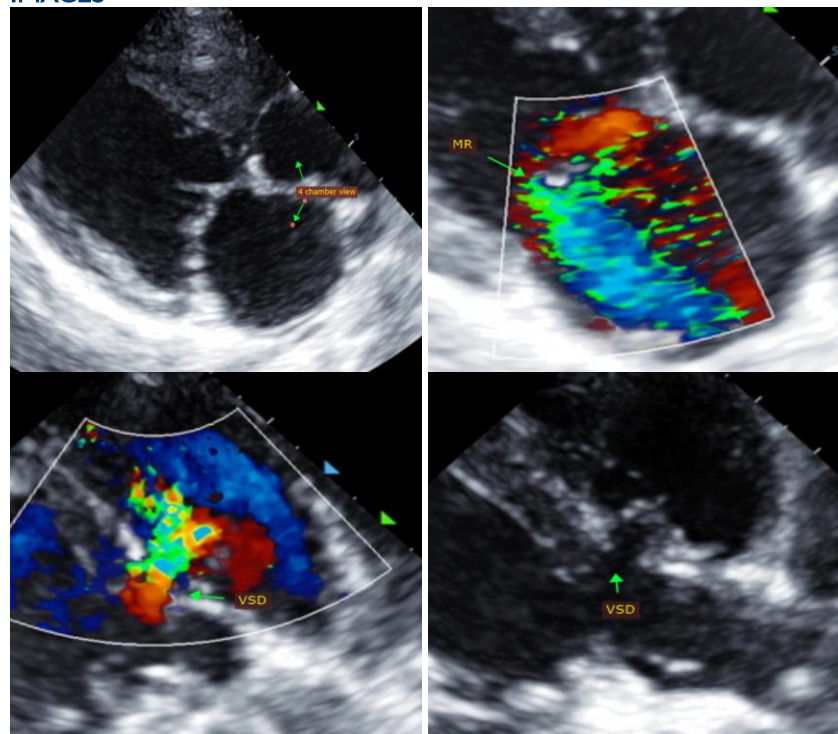
Maggie Machen Lamy,
DVM DACVIM
(Cardiology)

If declined, recommend conservative monitoring with a recheck echocardiogram in 6-8 months (or once full stature), sooner if any development of clinical signs.

IMAGES

IMAGING PERFORMED BY

Kelly Reschny, RVT



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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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Great Pyreneese Mix

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

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