



PATIENT PRESENTING CLINICAL SIGNS

Blue Bernier

History: Recheck echo prior to neuter. Grade 3-4/6 heart murmur. Sedated with Butorphanol IV.
-Pertinent previous echo findings (2/16/22 MML): Mild LAE, mild LVE, VSD; left to right, 5.2m/s, 0.6cm across, mild TR, trace PI, no RHE.

SPECIES

Canine

ECHOCARDIOGRAM FINDINGS

BREED

Husky

2D, m-mode, color flow and doppler imaging is available. Mild thickening of mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation. No left atrial enlargement. Normal LV diameter with mildly depressed myocardial function. Septal flattening in systole. The ventricular septal defect is visualized, although less apparent than previous. The VSD appears bidirectional with low velocity left to right flow (3.0m/s). The tricuspid valve appears mildly thickened with severe tricuspid regurgitation. Elevated velocity. The right atrium is moderate to severely enlarged. The right ventricular is severely enlarged with significant hypertrophy consistent with pressure overload. The pulmonic valve appears thickened, although difficult to extensively visualize. Velocity through the region is elevated, consistent with a moderate stenosis. The MPA are branches are mildly dilated. The aortic valve is normal with no aortic insufficiency. Normal aortic outflow velocities. No pericardial or pleural effusion noted. No obvious cardiac masses.

SEX

Male

AGE

9 months

CARDIAC CHART

WEIGHT

54lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

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	NA	4.0	NM	1.3	22	46	0.1
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	84	1.5	3.5	24.5	2.6	3.1	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)

IMAGING PERFORMED BY

Dr. Karen Ebersole

HOSPITAL NAME

Scanvet

REFERRING VET

Dr. Durand

INVOICE

26364

DATE

9/14/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Compared to the prior study, there are several significant differences. While the VSD persists, the flow now appears bidirectional. This is likely secondary to pulmonic stenosis creating increased right heart pressures. Of great significance the right heart is moderate to severely enlarged (previously normal), indicating risk for complication. While only the VSD was apparent



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on the 9-week-old exam, these additional findings are significant and progressive. No additional issues are identified.

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Given the complexity of the findings, **highly recommend referral to an attending Cardiologist in this case for advanced echocardiography and management.** Surgical options can be discussed although long-term benefit is questionable in this case. Medical management is recommended with Atenolol as pulmonic stenosis is now identified. No additional medications are clearly indicated at this time.

BREED

Husky

Assessment of progression in the future will help predict long term prognosis, which is guarded. The patient will always be at risk for progression to right-sided CHF, symptoms of hypoxia, polycythemia, etc. Arrhythmias/collapse and/or sudden death is also a possibility. Hypoxic heart disease will often present as marked exercise intolerance, cyanosis and syncope at home.

SEX

Male

Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Lifelong activity restriction is advised. Elective anesthesia is not advised. If necessary, referral to a facility with an Anesthesiologist should be considered.

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Monitor for development of a cough, labored breathing, abdominal distention, exercise intolerance or collapse episodes.

WEIGHT

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PLAN

Highly recommend referral as discussed. If declined, institute Atenolol 12.5mg PO q24h. Up-titrate to effect; target heart rate is <140bpm in hospital.

INTERPRETED BY

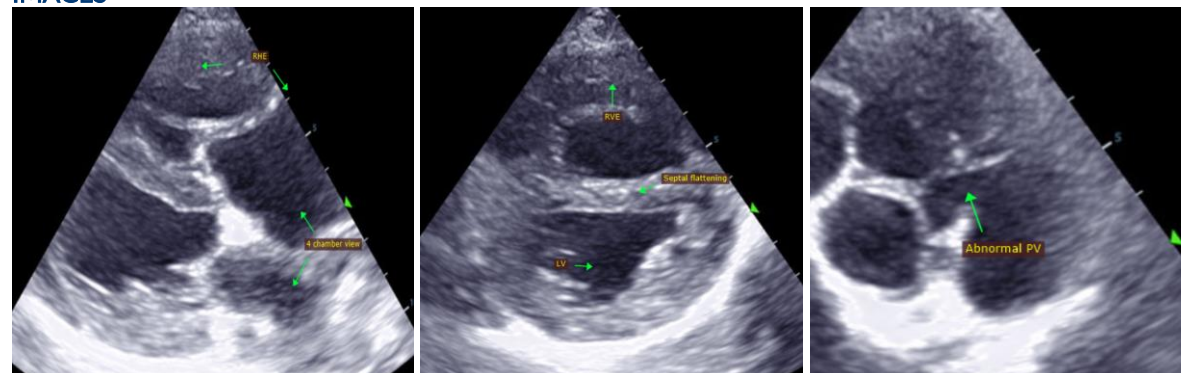
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Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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IMAGES



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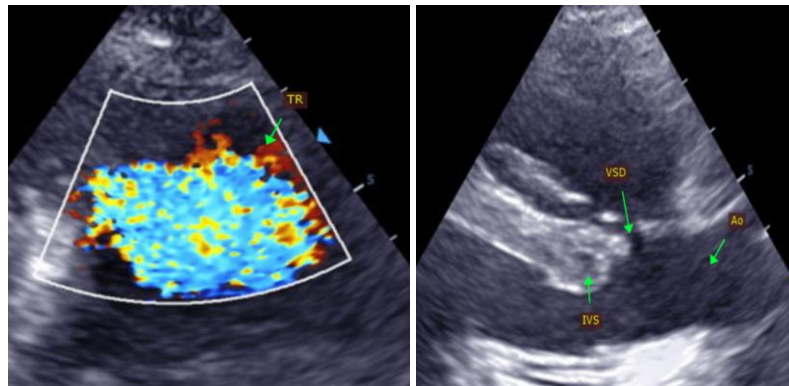
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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