



Portable Animal Western Sonography, Inc.

IMAGING PERFORMED BY

pawsonography@gmail.com 530-786-8340

PATIENT

Chili Vallindras

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

12 years

WEIGHT

9.95lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Animal Medical
Center or Reno

REFERRING VET

Dr. Taormina

INVOICE

21846

DATE

11/2/21

PRESENTING CLINICAL SIGNS

History: Grade 3-4/6 heart murmur – significantly worse than previously described. Blood pressure: 203mmHg. Assess prior to dental.
-Abnormal lab results: Elevated ALT, ALP.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
Normal cardiac silhouette. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 150bpm (range 107-200bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Significant thickening of anterior mitral valve leaflets with no obvious prolapse into the left atrial lumen. No MR; normal left atrial dimension. Mild to moderately increased LV wall thickness. Small/normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Elevated pulmonic and aortic outflow velocities with laminar flow. No obvious aortic insufficiency. Mild pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

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	NA	NM	1.1	52	94	NM
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	NM	2.3	1.7	4.5	1.3	2.3	1.1
*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)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995



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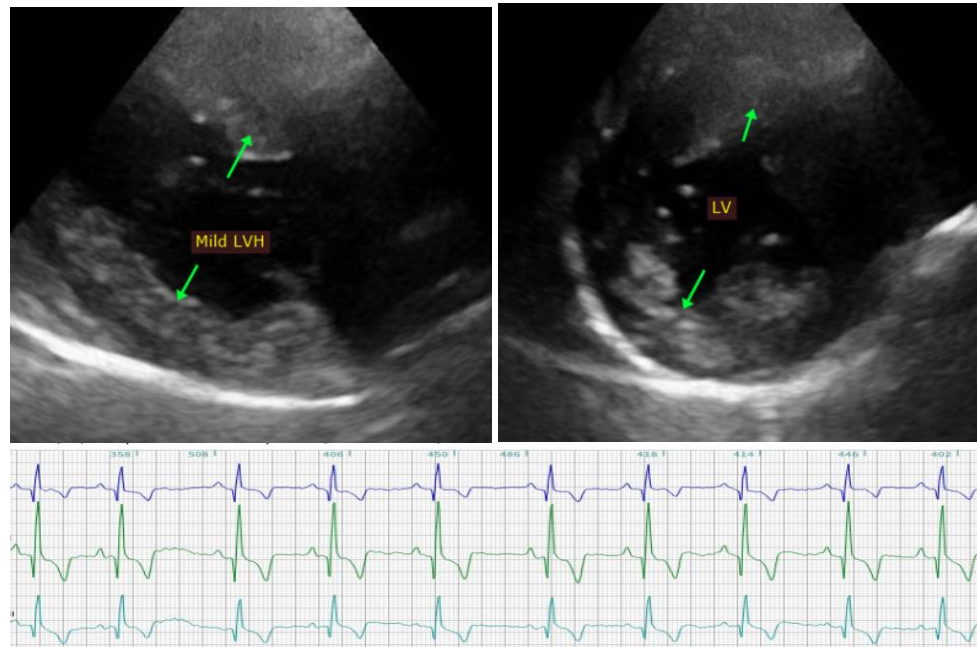
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary abnormality noted on this exam is significant LV hypertrophy. The hypertrophy appears symmetrical, and rule outs for this finding in the absence of a stenosis include systemic hypertension, primary HCM (similar to a cat; rare in a dog) or potentially an infiltrative process in the myocardium. The reported BP is elevated which is of course of great concern. Reassessment is advised prior to medicating as below. No concurrent issues such as systolic dysfunction or pulmonary hypertension are noted in this study. The murmur is due to mildly elevated outflow velocities through both great vessels, which is typically a secondary issue as well and is largely benign. Routine lab work to screen for systemic issues that may lead to blood pressure issues should also be recommended (Cushings, azotemia, etc.). Additionally, looking for causes of increase blood velocity (anemia, dehydration) is also recommended through routine labs (CBC, chem, UA, T4). The ECG is unremarkable, with a normal sinus rhythm.

From a structural standpoint, no cardiac medications are clearly indicated. The LA is normal indicating a low risk for congestive heart failure or predictable complications. If the BP is persistently elevated, vasodilation using amlodipine is recommended. If patient is deemed normotensive, a full systemic work up to screen for/rule out potential infiltrative diseases such as neoplasia is recommended. If no abnormalities are identified, a primary HCM is suspected and a recheck of LA/LV dimensions is recommended in 6 months.

Pending further evaluation results, 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.

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.

BREED

Chihuahua

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

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