



PATIENT

Mia Rivera Cintron

SPECIES

Canine

BREED

Shih Tzu

SEX

F

AGE

9 years

WEIGHT

16Lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Dr. Ferrer

HOSPITAL NAME

Paseos VC

REFERRING VET

Dr. Carrasquillo

INVOICE

20882

DATE

9/3/21

PRESENTING CLINICAL SIGNS

History: Pt presented for evaluation of fainting episode and fever. Pt is having collapsing and fainting episodes when getting excited or stressed. Pt also have a fever of 103.6 F on presentation. PT has history of heart murmur and is currently on enalapril.

Abnormal PE/Chem/CBC/UA Results: Blood pressure: 201, 201, 176, 213mmHg

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with minimal prolapse into the left atrial lumen. Trace/mild eccentric mitral regurgitation with no left atrial dilatation. Decreased LV diameter with adequate myocardial function. Increased LV wall dimensions (0.9cm globally). The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. 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. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or 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	NM	2.3	NM	1.2	44	80	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	150	0.83	0.9	7.3	1.49	1.6	0.9
*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 chronic degenerative valve disease causing mild mitral and trace tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. The LV wall thickness is increased however, which should be further investigated. This finding is most commonly secondary to volume depletion (ie pseudohypertrophy), high blood pressure,



PATIENT	myocardial disease such as HCM or an infiltrative process such as lymphoma. All should be considered, particularly in light of reported BP readings. If these are thought to be accurate, and/or the patient has any predisposing factors for SHT such as Cushings or renal disease then certainly treatment with Amlodipine is advised. Consider reassess as a sole visit prior to proceeding to ensure results are accurate due to variability. Ideally obtain serial measurements in a controlled, low stress environment and continue until the readings plateau within 5mmHg of variability for 3+ readings. Additionally full lab work is recommended to screen for anemia, dehydration, etc.
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Shih Tzu	In a dog with a fainting episode, common cardiac-associated causes include vasovagal events, arrhythmias, poor cardiac output secondary to structural disease, or pulmonary hypertension. None of these are seen today, however this does not rule out intermittent brady or tachyarrhythmias or vasovagal events, or blood pressure issues as documented. Further historical information (nature of the episode, situational component, etc), systemic lab evaluation, etc is advised. Additionally, non-cardiac causes should also be considered.
SEX	
F	
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9 years	In a dog without significant left atrial enlargement, no cardiac medications are clearly indicated and Enalapril can be discontinued if being used for cardiac reasons. Amlodipine is the superior vasodilator; however, an ACEI may be needed pending further urinalysis evaluation for proteinuria.
WEIGHT	
16Lbs	Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage. Omega fatty acid supplementation and mild salt restriction may be of some long term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
INTERPRETED BY	
Maggie Machen Lamy, DVM, DACVIM (Cardiology)	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.
IMAGING PERFORMED BY	
Dr. Ferrer	Plan: Baseline lab work (CBC/chem/T4/UA) and reassess BP. If true pathologic systemic hypertension is suspected, institute amlodipine to effect and screen for underlying primary causes. Consultation with an internist may be useful should this be the case. No obvious indication for benazepril from a cardiac standpoint. Further information on the collapse episode should be obtained with follow-up as dictated by above diagnostics.
HOSPITAL NAME	
Paseos VC	Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.
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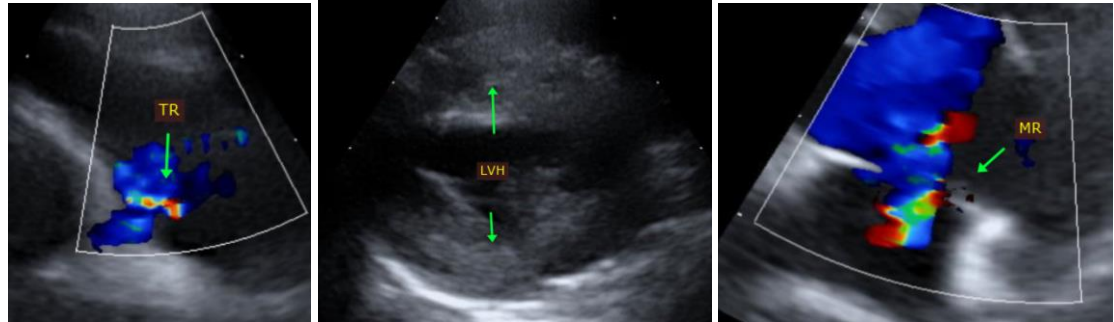
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IMAGES



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
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