



PATIENT

Takis Estrada

SPECIES

Canine

BREED

Chihuahua

SEX

Male Intact

AGE

14 years

WEIGHT

17lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Donner Truckee
Veterinary Hospital

REFERRING VET

Dr. Greg

INVOICE

22696

DATE

2/18/22

PRESENTING CLINICAL SIGNS

History: Patient has a growing mass in the right inguinal region. Grade II/VI left systolic murmur. Assess prior to possible anesthesia. AUS showed hepatic congestion.
-Abnormal PE/Chem/CBC/UA Results: CBC/chem/T4: K=5.6 (H), Na/K ratio=26 (L), moderate thrombocytosis, moderate monocytosis, and T4=0.6. Rest WNL.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with prolapse into the left atrial lumen. There is moderate eccentric mitral regurgitation present. The MR velocity is normal. Moderate left atrial enlargement. There is no left ventricular dilation. Left ventricular systolic function is adequate. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is dilated. Moderate right atrial and ventricular enlargement. The tricuspid valve is thickened with moderate tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension (suspected to be an underestimation). Trace pulmonic insufficiency and no aortic insufficiency. No pericardial effusion. No pleural effusion or cardiac masses are seen.

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	5.6	4.0	NM	1.8	31	61	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	1.1	0.6	7.7	2.5	2.6	1.8
*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

Chronic degenerative valve disease causing moderate mitral and tricuspid regurgitation is identified. Moderate left atrial dilation indicates the risk for spontaneous left-sided congestive heart failure is relatively low. More importantly, there is significant pulmonary hypertension based upon the appearance of the right heart, which puts the patient at risk for right-sided congestion, and/or syncope. Given these findings, reported hepatic congestion is likely



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cardiogenic in origin and warrants full lifelong cardiac supportive medications including diuretics as below.

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The underlying genesis of PAH is poorly understood in cases other than heartworm infestation, though it occurs with increased frequency in a variety of forms of chronic lung disease and in patients with idiopathic pulmonary fibrosis. Given no reported symptoms, underlying cause remains open.

BREED

Chihuahua

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or worsening collapse episodes. Monitoring of sleeping breathing rates is recommended as the best way to screen for progression to CHF at home. Unfortunately, there is high risk for spontaneous CHF, worsening cough and/or malignant arrhythmias and sudden death in the future. The prognosis with this degree of disease is poor, with most dogs able to maintain a good QOL on medications for an average of 8-12 months.

AGE

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Elective anesthesia is not advised, as there is high risk for complication. Risk:benefit ratio should be considered. Consider consultation with and/or referral to a facility with an anesthesiologist. Should you elect to proceed, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

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(Cardiology)

PLAN

Initiate spironolactone 1-2mg/kg PO q12h. Institute Sildenafil 1-2mg/kg PO 8h. Initiate low-dose Lasix 1mg/kg PO q12h. Initiate Pimobendan 0.25-0.3mg/kg PO q12h.

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Loetitia St-Jacques,
LVT/RVT

Recheck renal values and BP in 1-2 weeks, then every 3-4 months on diuretic therapy. If BP is >130mmHg and patient is doing well at home, institute ACEI 0.5mg/kg PO q12h (if hypotensive do not utilize).

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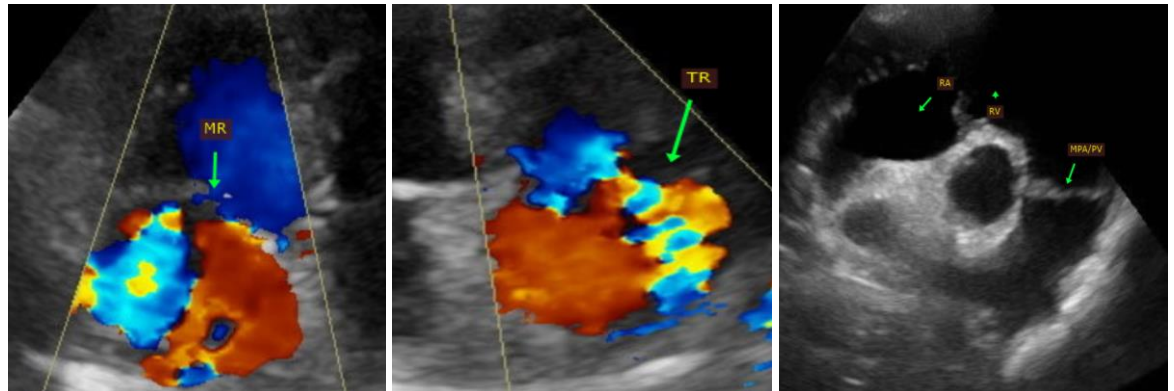
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A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if

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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.

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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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Chihuahua

Maggie Machen Lamy, DVM
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