



PATIENT

Teddy Blakely

PRESENTING CLINICAL SIGNS

History: Presented for distended abdomen, decreased appetite, systolic murmur, and coughing. Started on Pimobendan, no additional medications. Labs nsf.

SPECIES

Canine

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is severely diffusely thickened with minimal prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is marked left atrial enlargement. There is a region of dropout in the interatrial septum with suspect flow across (L-R); not consistent however suspicion is high. There is severe left ventricular dilation indicative of volume overload. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. Mild AI. The main pulmonary artery is mildly dilated. Normal pulmonic outflow velocity with laminar profile. Mild pulmonic insufficiency. Moderate right atrial and right ventricular dilation. The tricuspid valve is thickened with severe tricuspid regurgitation. The tricuspid regurgitant velocity is consistent with moderate pulmonary hypertension. No pericardial/pleural effusion or cardiac masses are seen. Large volume ascites seen on subcostal views.

BREED

Mix

SEX

Male Neutered

AGE

12 years

CARDIAC CHART

WEIGHT

32lbs

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	4.8	3.7	2.5	2.8	40	72	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	107	0.90	0.64	14.5	3.7	5.2	2.8
*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)

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

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Kelly Vazquez, CVT

HOSPITAL NAME

Glen Rock Veterinary Hospital

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Dr. Stekler

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation. Marked left atrial and ventricular enlargement indicates the risk for spontaneous congestive heart failure is high and the ascites is likely cardiogenic in origin. There is suspicion of a rupture in the interatrial septum, secondary to exceedingly high left atrial pressure (acquired ASD). This is leading to volume overload of the right heart and ultimately right-sided CHF and moderate PAh



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has developed. Aggressive cardiac support is recommended as below. No obvious indication for Sildenafil at this time given the clinical picture (likely PAH is secondary to increased flow and congestion rather than a primary pathology), however if exertional syncope were to develop or the ascites is refractory to therapy I would not hesitate to add the medication.

Unfortunately with this degree of heart disease and congestion, the prognosis is guarded to poor with an average survival time of <1 year at this point. Most dogs are able to maintain a good quality of life for some time however with medications. Going forward risk will remain for recurrent right or left-sided CHF, collapse episodes and/or development of arrhythmias/sudden death in the future.

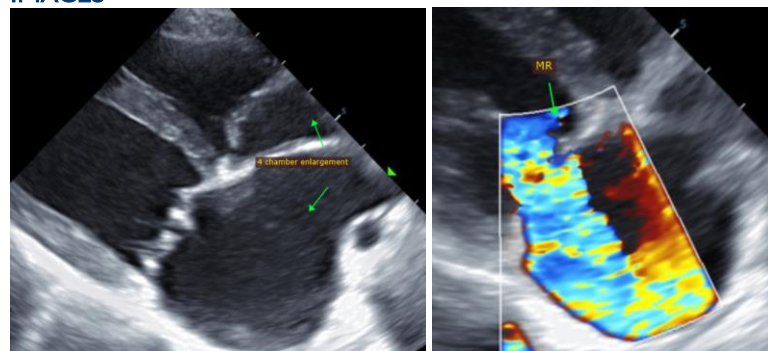
Omega fatty acid supplementation and mild salt restriction may also be of some long term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Monitoring of sleeping breathing rates is recommended as the best way to screen for improvement/recurrent CHF at home.

Plan: Abdominocentesis if needed for comfort. Institute furosemide 1-2mg/kg PO q8h for 5 days, then decrease to q12h if doing well. Institute spironolactone 1-2mg/kg PO q12h. Institute Pimobendan 0.3mg/kg PO q12h. If patient develops any syncope or refractory ascites in the future, consider Sildenafil 1-2mg/kg PO q12h.

Recheck a kidney panel and BP in 10-14 days. If doing well and BP >130mmHg, institute ACEI 0.5mg/kg PO q12h.

A recheck echocardiogram and ECG is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

IMAGES





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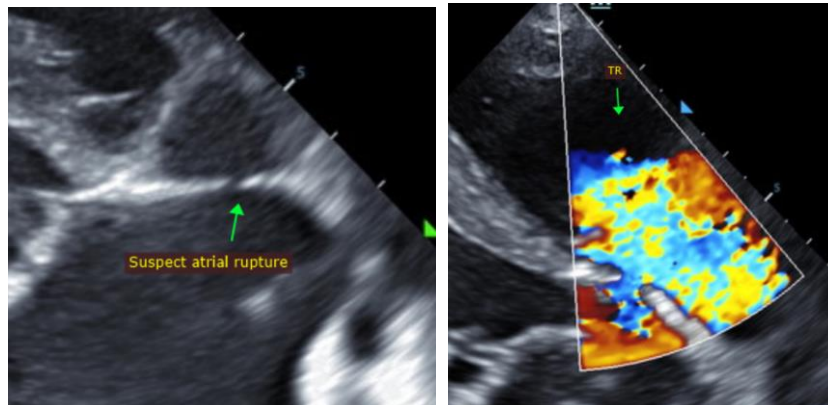
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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