



PATIENT

Remi DeVito

PRESENTING CLINICAL SIGNS

History: Arrhythmia appreciated on normal annual exam. Not on any medications.

SPECIES

Canine

BREED

Sheltie

SEX

Male

AGE

11 years

WEIGHT

44lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Andover Animal
Hospital

REFERRING VET

Dr. Lind

INVOICE

25344

DATE

7/15/22

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior > posterior) with no prolapse into the left atrial lumen. Severe mitral regurgitation with severe left atrial dilation. Increased LV diameter with mild LV dysfunction. The tricuspid valve appears mildly thickened with moderate tricuspid regurgitation. TR velocity is normal. Mild right atrial and ventricular dilation. No obvious RVH. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion. Hepatic congestion on subcostal images. No cardiac tumors observed. Irregular tachyarrhythmia noted.

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	4.7	2.5	2.1	2.5	23	47	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	230	1.4		20.0	4.4	4.4	3.4
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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 severe mitral and moderate tricuspid regurgitation. The patient has a marked tachyarrhythmia (heart rate is 230bpm on echo) as well which is suspected to be atrial fibrillation (cannot rule out intermittent SVT/VT without an ECG). Marked 4 chamber dilation is present and evidence of right-sided congestion (hepatic congestion), which is likely secondary to the tachyarrhythmia (i.e., CVD that has now developed into tachycardia-induced cardiomyopathy which most often results in right-sided CHF). **The acute development of a rapid arrhythmia is what leads to decompensation, and the diagnosis must be confirmed in order to dictate therapy and stabilize the patient. Instituting cardiac supportive medications is indicated as below, however until the rate is controlled success will not be easily achieved. An ECG is highly recommended to confirm.** If this is not available or the patient appears unstable, referral to an emergency care center for hospitalization/supportive care and Cardiologist



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evaluation is highly recommended. If this is not possible for this case, I have advised medical management as below with a guarded to poor prognosis.

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Severe 4 chamber dilation indicates the risk for spontaneous congestive heart failure is high and effusion and symptoms are cardiogenic in origin. Unfortunately, dogs with CHF and arrhythmias are at high risk for complications such as recurrent congestive heart failure, malignant arrhythmias and sudden death. Medications and close monitoring will help give the best prognosis possible, however the average survival time with this condition is <6 months.

BREED

Sheltie

Please monitor at home for cough, lethargy, inappetance, collapse/fainting episodes or increase in respiratory rate or effort. Monitoring of sleeping breathing rates is recommended to screen for recurrent CHF at home. Moderate activity restriction is advised. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit

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PLAN

Baseline BP and ECG +/- referral. Oral medications include the following: Institute Spironolactone 1-2mg/kg PO q12h. Institute Furosemide 1-2mg/kg PO q12h. Institute Pimobendan 0.3mg/kg PO q12h. Assuming If <130mmHg, do not utilize until normotensive and doing well at home.

WEIGHT

44lbs

Recheck renal panel in 10-14 days to ensure tolerance of medications, then every 3-4 months lifelong. If doing well and baseline BP is >130mmHg, institute ACE-I (Benazepril or Enalapril), 0.5mg/kg PO q12h.

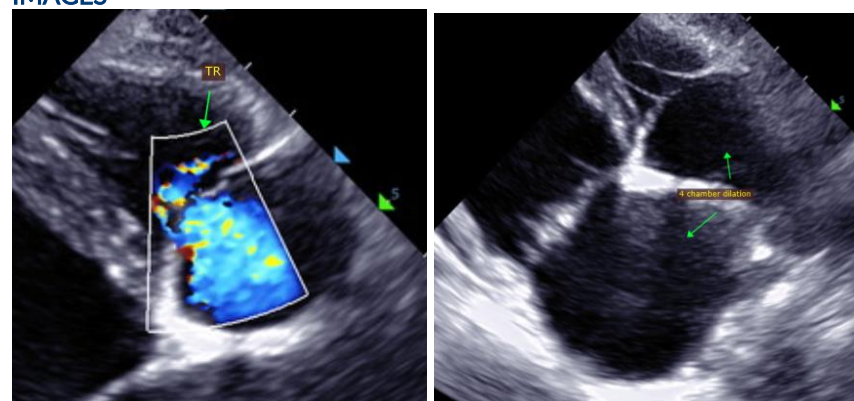
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A recheck echocardiogram is recommended in 4-6 months to screen for progression.

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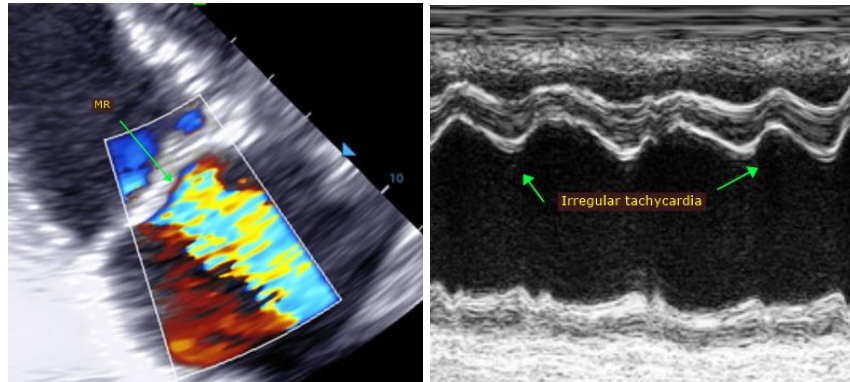
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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