



PATIENT

Chloe Terland

PRESENTING CLINICAL SIGNS

History: VHS: 15.9. Irregularly irregular rhythm. No murmur appreciated.
-Current medications: pimobendan 5mg, Furosemide 40mg, Enalapril 10mg.

SPECIES

Canine

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal in dimension. The LV chamber is normal in dimension with adequate myocardial function. The left atrium is markedly dilated and bulbous in appearance. The right atrium is mildly dilated. The right ventricle appears normal. The mitral valve is thickened with an elongated anterior leaflet. Moderate central mitral regurgitation present with a normal velocity. Mitral stenosis is highly suspected based upon 2D images; however, not confirmed on mitral inflows or color flow imaging. Trace tricuspid regurgitation seen. Blood flow through the LVOT is mildly increased in velocity. The aortic valve appears largely normal. The PV/RVOT appears normal with a normal outflow velocity. No evidence of cardiac tumors or metastatic lesions on this scan. No pleural or pericardial effusion seen.

BREED

American Bulldog

SEX

Female Spayed

AGE

6 years

CARDIAC CHART

WEIGHT

71lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Fred Gromalak, DVM

HOSPITAL NAME

SVS Imaging

REFERRING VET

Dr. Tarp

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	6.0	NA	2.8	>3.0	28	50	0.5
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	>250	2.5	1.2	32.2	7.3	4.6	3.3
*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

INVOICE

26283

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary abnormality identified is marked left atrial dilatation with significant mitral regurgitation. The appearance and motion of the mitral valve is most consistent with severe mitral stenosis, which is a congenital form of mitral valve dysplasia. This over time has led to moderate MR and marked LA dilation. It is common for mitral stenosis to remain silent as a diastolic murmur is often not appreciated on exam, and is only diagnosed once decompensation develops as is suspected to be the case here. The right heart is mildly enlarged, like due to the arrhythmia. No additional issues are identified.

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9/9/22



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Of great concern, the heart rate is extremely elevated with an irregular rhythm, which is most consistent with atrial fibrillation. **The acute development of an arrhythmia is typically 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 clinical improvement will not be easily achieved. An ECG is highly recommended to confirm the diagnosis and dictate antiarrhythmic therapy.** If this is not available or the patient appears unstable, referral to an emergency care center for hospitalization/supportive care and Cardiologist evaluation is highly recommended.

Prognosis is poor in this case, with 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.

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.

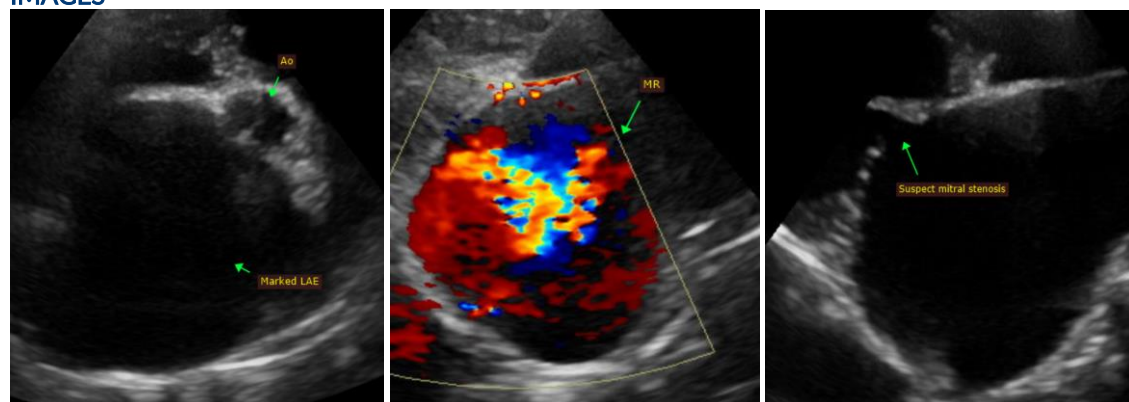
PLAN

Immediate ECG +/- referral and/or hospitalization as discussed. 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.

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.

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

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.



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