



PATIENT

Bubby Moore

SPECIES

Canine

BREED

Shih Tzu

SEX

Male Neutered

AGE

13 years

WEIGHT

16lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Julia Bakker, DVM

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Dr. O'Keefe

INVOICE

47427

DATE

4/6/26

PRESENTING CLINICAL SIGNS

History: Hospitalized at the ER for IMTP. Started steroids last week. CXR were normal at that visit and no murmur or arrhythmia was noted.

Presents today in respiratory distress. New murmur ausculted. Concern for steroid induced heart failure.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Mild cardiomegaly, inconsistent with CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mildly thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. A hyperechoic lesion is seen that appears to be adhered to the atrial aspect of the anterior leaflet. Moderate eccentric mitral regurgitation with moderate left atrial dilation (LA:Ao >1.6). Normal LV diameter with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened, with trace tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. Normal right atrial and ventricular diameter. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic and trace pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

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	5.0	3.0	1.6	1.8	52	85	0.2
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	1.5	0.7	7.3	2.3	2.2	1.0
*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)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unusual case. The most significant finding is a lesion is seen on the surface of the mitral valve. Given the history in this case, there is great concern for a thrombus as the likely explanation. This is based upon a hypercoagulable state (IMTP) likely exacerbated by steroid use. The lesion is resulting in mitral regurgitation and LA dilation has developed. The LV is normal which is expected given the timeframe. Mild pulmonary hypertension is also identified, which may suggest an ancillary issue such as a PTE as well.

In my opinion, the most likely scenario in this case is that the respiratory signs are due to embolic events given the findings. Highly recommended a Radiologist review of serial films as CHF cannot be entirely ruled out. Further coagulation work up such as a TEG is recommended, and anticoagulation therapy is likely necessary pending consultation with an internal medicine or ECC specialist ASAP. Consider returning this case to the specialty center that performed the initial workup for further care. Continuing pimobendan is reasonable regardless and Lasix likely unnecessary.

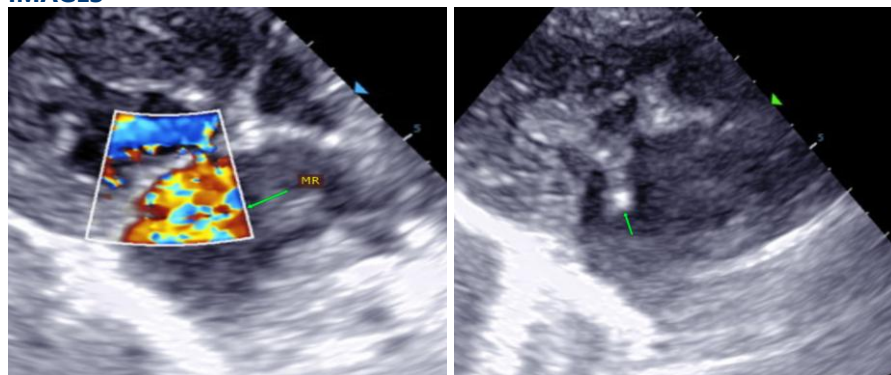
Prognosis is guarded pending further evaluation. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

Continue heart muscle support, Pimobendan 0.3mg/kg PO q12h. Immediate further workup as described above, including a Radiologist review of serial films, evaluation of a hypercoagulable state such as a TEG, referral to a multi specialty center for further evaluation. At a minimum consultation with an IM specialist is strongly advised. Lasix is suspected to be unnecessary in this case.

Follow up based upon clinical progression.

IMAGES





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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
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