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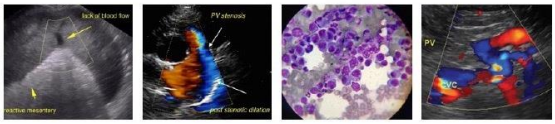


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT
Oscar Steadman

SPECIES
Canine

BREED
Coton

SEX
Male Neutered

AGE
12 years

WEIGHT
13.2lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Kelly Reschny, RVT

HOSPITAL NAME
Hamilton Region Veterinary Emergency Clinic

REFERRING VET
Dr. Rubino

INVOICE
30675

DATE
5/9/23

PRESENTING CLINICAL SIGNS
History: Chronic grade 4/6 heart murmur. Lungs sounds are normal. Previously diagnosed with autoimmune disease.
-Current medications: Prednisone 1/2-tab 20mg, furosemide 20mg q12h PO, 1 cap vetmedin 2.5mg q12h PO 1 tab 2.5mg, Fortekor PO q24h in AM

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
Cardiomegaly. The PV are obscured; however, no obvious evidence of CHF.

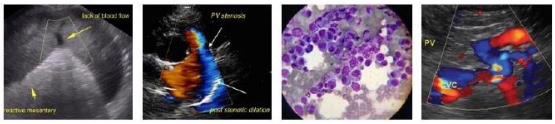
ECHOCARDIOGRAM FINDINGS
2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with minimal prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is severe left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is mildly depressed. Mild right atrial and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. No pericardial/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	5.5	NM	1.7	2.1	32	60	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	140	0.9	0.8	6.0	3.4	4.1	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)
**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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS
Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. The LA is significantly dilated indicating a high risk for clinical signs going forward. Mild LV dysfunction is noted, which should be monitored going forward. Finally mild pulmonary



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hypertension is suspected, which is likely secondary to chronic LA pressure elevation. No additional issues are identified.

With this degree of left heart changes, the risk for spontaneous congestive heart failure is elevated and continued cardiac supportive medications are indicated as below. **The chest radiographs are equivocal; however, in the absence of clinical signs active congestion is considered unlikely. Regardless, d**iuretics are included given high risk for decompensation in the future even with no reported symptoms. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (late B2/C). Unfortunately, the patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

Elective anesthesia is not advised, as there is high risk for complication. If necessary, 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. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit.

PLAN

A screening BP is recommended. Administer Pimobendan 0.3mg/kg PO q12h. Pending BP >130mmHg, administer ACE-I (benazepril or enalapril) 0.5mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Administer Lasix 1-2mg/kg PO q12h depending on history, clinical signs, response to prior dosing, etc.

Monitor renal values in 1-2 weeks, then every 3-4 months lifelong to ensure tolerance of medications.

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

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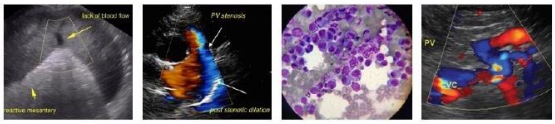

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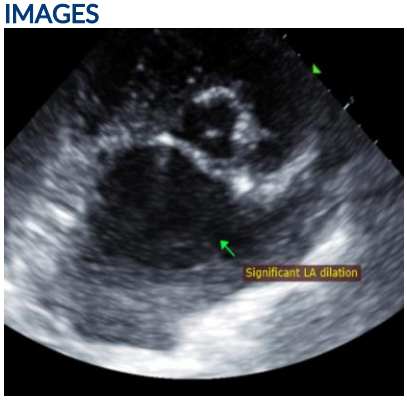
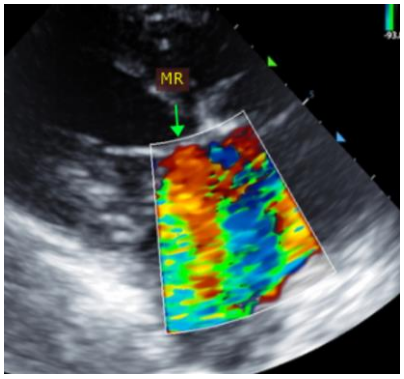
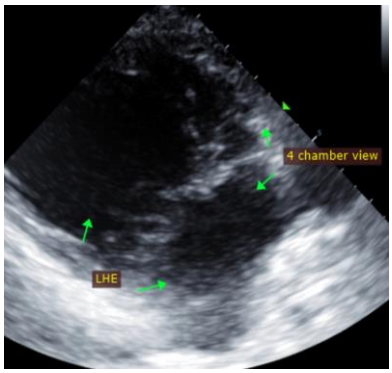
IMAGES







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.

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