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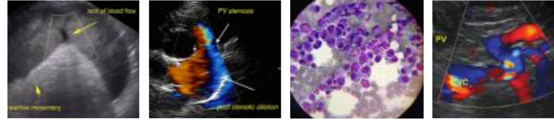


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
KT Kroeger

SPECIES
Canine

BREED
Schnauzer

SEX
Female Spayed

AGE
11 years

WEIGHT
13.7lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Bush Animal Hospital

REFERRING VET
Dr. Beyerinck

INVOICE
24007

DATE
5/3/22

PRESENTING CLINICAL SIGNS

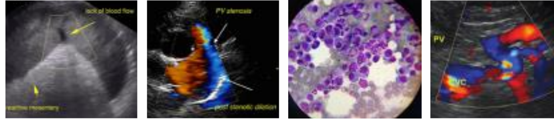
History: 6/21 - (at prior DVM) presented for collapsing episodes, new onset murmur. Cardiomegaly on radiographs, started on CHF medications. No collapsing episodes after tx initiated Current: IV/VI L systolic murmur. Eupneic with no active CHF signs. Severe dental disease. Assess prior to dental. Heart Rate and Respiratory Rates HR 95, RR 12
-Current Medications Furosemide 6.25mg q12hr, pimobendan 3.75mg qd divided, enalapril 5mg q12h.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is thickened with mild prolapse into the left atrial lumen. There is moderate eccentric mitral regurgitation present. There is moderate left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve, trace insufficiency. The aortic valve appears normal. Mild right atrial/ventricular enlargement (subjective). The tricuspid valve is mildly thickened with moderate tricuspid regurgitation. The tricuspid regurgitant velocity is consistent with moderate pulmonary hypertension. The pulmonary artery is mildly dilated. The pulmonic valve are normal. No PI. 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	7.5	4.0	1.3	1.8	43	76	0.14
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	88	1.8	1.3	6.2	2.1	3.0	1.7
*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)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
Adapted from June Boon, Veterinary Echocardiography, 1998				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Hansson et al, Vet Rad and Ultrasound 2002				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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)



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and tricuspid regurgitation. Moderate left atrial enlargement indicates there may be elevated risk for spontaneous congestive heart failure in the future. Moderate pulmonary hypertension is also identified, with mild right heart prominence. No additional issues are identified.

Exertional syncope in this patient is most likely cardiogenic in origin, and it is reasonable to continue Pimobendan and an ACEI going forward. Sildenafil is also warranted given the clinical picture. It is difficult to know if Lasix should be administered going forward. Given only moderate disease, this can likely be discontinued unless there was radiographic evidence of CHF previously. If the episodes recur in the future despite medications, or if any breathing issues are noted, repeat chest radiographs are highly recommended to screen for early decompensation. Close monitoring at home is advised. A baseline ECG and BP are also recommended should the collapse recur.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

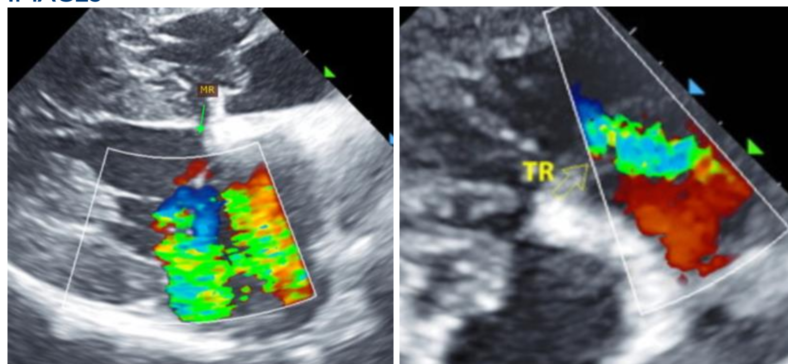
Anesthetic risk is considered moderately elevated, with increased risk for complication. If necessary, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and 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.

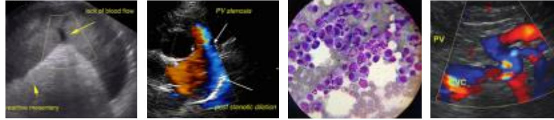
PLAN

Continue heart muscle support Pimobendan 0.25-0.3mg/kg PO BID. Institute Sildenafil 1-2mg/kg PO q12h. Continue ACE-I 0.5mg/kg PO q12h, pending BP measurement >130mmHg. No obvious needed indication for Lasix at this time.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES





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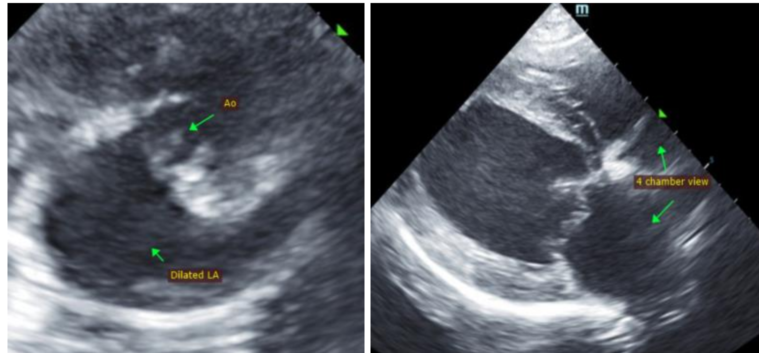

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com