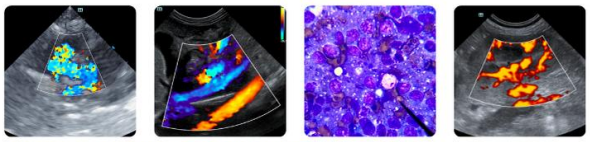

PATIENT

Squints Rex

SPECIES

Canine

BREED

Bull Terrier

SEX

Male Neutered

AGE

5 years

WEIGHT

79.4lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

S. Barthelemy, DVM

HOSPITAL NAME

Northwest AH

REFERRING VET

Dr. Bath

INVOICE

46917

DATE

2/19/26

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. Asymptomatic. Marked elevation in BNP: 2652. Grain-inclusive diet. Assess prior to dental.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets are mildly thickened with no prolapse into the left atrial lumen. Mild central mitral regurgitation noted with mild to moderate left atrial dilation. Normal velocity. The LV is normal in diastole with an increased systolic dimension. Mildly depressed myocardial function and increased sphericity. The left ventricular walls are not significantly hypertrophied. Prominent papillary muscles. The aortic valve appears trileaflet yet significantly thickened. A subaortic component is not apparent. Severely increased flow velocity through the region. Mild aortic insufficiency. The tricuspid valve appears subjectively normal, trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology. The pulmonic valve is normal in morphology and mobility. Mild pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors identified.

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	5.8	2.7	1.75	1.8	21	43	0.8
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	5.7	1.4	36.0	1.7	4.5	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)
***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)
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

The cause of the murmur is severe aortic stenosis (AS) causing significantly elevated blood flow velocity through the LVOT and aortic valve. The peak gradient seen here is consistent with a severe stenosis; however, no significant hypertrophy is seen. The LV chamber is unexpectedly dilated with increased sphericity and dysfunction, likely consistent with end-stage disease and development of early LV failure. A concurrent DCM phenotype would also be possible. Mild AI is

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noted which should be monitored going forward. Despite these findings, the LA is mild to moderately dilated, which suggests relatively low risk for imminent complication. Mild MR and trace TR may reflect early valve disease and monitoring for progression is advised. No additional issues are identified in this study.
The prognosis with this degree of AS is poor long term; however, this patient has no reported symptoms at 5yo, which is a good sign. The LV dysfunction should be monitored, however, as this may predispose to more significant complications going forward. The use of Pimobendan could be argued in this case; however, this is typically contraindicated with an outflow tract stenosis. Given the totality of the findings, I would not yet start the medication. Atenolol is not recommended in this case.

Close follow-up is advised as this may be indicated in the future. Patients will always be at risk for sustained arrythmias, collapse, and/or sudden death going forward. Mild activity restriction is advised.

No medications are indicated; however, a taurine supplement is recommended. Any progression in LV dilation or dysfunction will warrant Pimobendan in spite of the outflow obstruction.

Monitor for development of labored breathing, exercise intolerance or collapse episodes, as SAS patients are more predisposed to development of arrhythmias than to CHF. Mild exercise restriction is advised lifelong. Omega fatty acid supplementation (1000mg 1-2x daily) may be of some long-term benefit for dogs predisposed to arrhythmias.

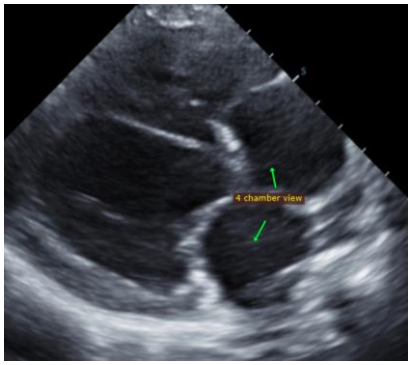
Elective anesthesia should be avoided if possible.

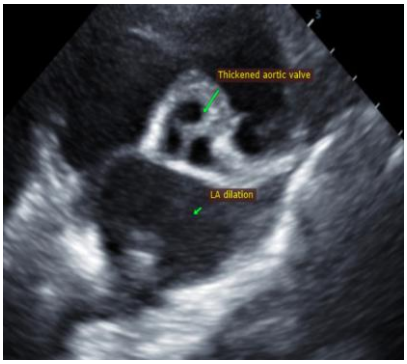
PLAN

Institute taurine 1000mg PO q12h.

Recommend recheck echocardiogram in 6 months to screen for progression, sooner if any clinical signs arise.

IMAGES





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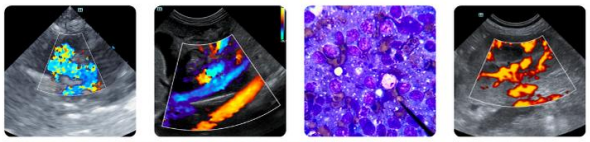

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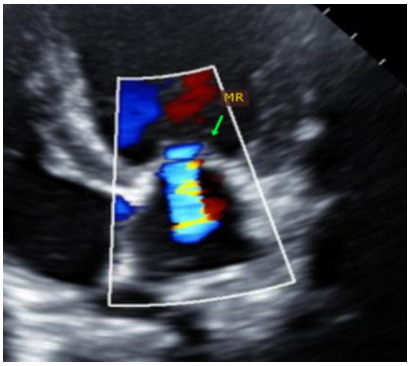

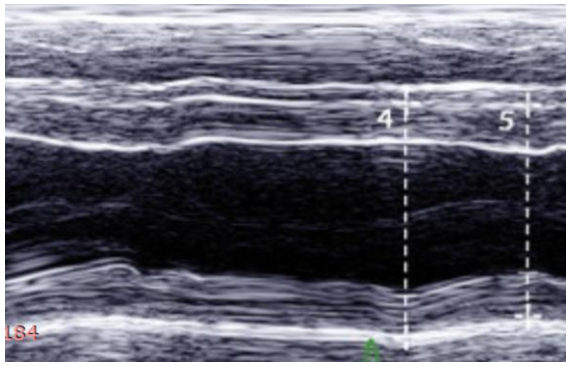

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Maggie Machen Lamy, DVM
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info@sonopath.com