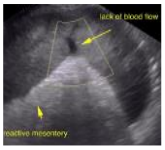
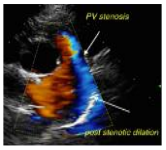
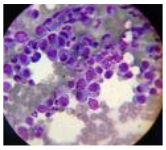
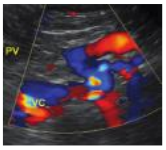
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Charlie Tricker

SPECIES
Canine

BREED
Standard Poodle

SEX
Male

AGE
4 years

WEIGHT
52.7lbs; 23.9kgs

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

IMAGING PERFORMED BY
Melissa Weisman, DVM

HOSPITAL NAME
Minnesota Veterinary Ultrasound

REFERRING VET
Dr. Weisman

INVOICE
25187

DATE
7/6/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Previously diagnosed with SAS/AS/MVD. Recently has been experiencing lethargy, weakness and increased respiratory rate. CXR concerning for CHF and Furosemide was initiated.
-Current medications: Atenolol 25mg ½ tab PO BID.
-Pertinent previous echo findings (6/2020 MML): Trace/mild MR, mild LAE, adequate FS: 32%, mild LVH, severe SAS, AV max: 5.8m/s, marked AI, abnormal aortic valve.

ECHOCARDIOGRAM FINDINGS

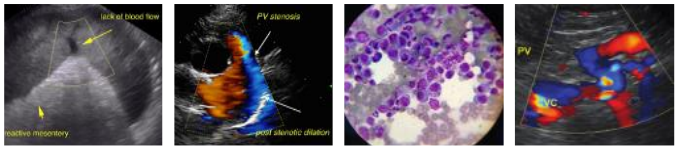
2D, m-mode, color flow and doppler imaging is available. The anterior mitral valve leaflet appears mildly elongated with mild mitral regurgitation. No obvious prolapse into the left atrial lumen. Severe left atrial dilation. Severe LV dilation with diminished systolic function. The left ventricular walls are normal to slightly thinned (0.9cm globally). The papillary muscles are remodeled. Sub-aortic narrowing is visualized (see below), consistent with prior severe SAS. The aortic valve appears highly abnormal, with regions of fusion and inadequate excursion in systole and inadequate closure in diastole. Severe AI. Max aortic outflow velocity is mildly increased, consistent with myocardial failure. The tricuspid valve appears subjectively normal, with no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal PA outflow velocity; laminar. 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	NM	NA	NM	2.6	16	30	0.88
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	2.1	0.4	23.9	5.9	6.2	5.2
*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

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
SonoPath.com
1-800-838-4268 info@sonopath.com



PATIENT
Charlie Tricker

SPECIES
Canine

BREED
Standard Poodle

SEX
Male

AGE
4 years

WEIGHT
52.7lbs; 23.9kgs

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

IMAGING PERFORMED BY
Melissa Weisman, DVM

HOSPITAL NAME
Minnesota Veterinary Ultrasound

REFERRING VET
Dr. Weisman

INVOICE
25187

DATE
7/6/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Compared to the prior study, there is clearly progressive myocardial dilation and dysfunction. The stenosis is similar in appearance to what was seen previously; however, the pressure gradient has dropped significantly consistent with myocardial failure. What is most concerning is the LV function is severely decreased and the LA is severely dilated (neither noted previously). LV dysfunction in this particular animal may reflect end-stage or burnout physiology (similar to end-stage HCM in a cat); however, a separate myocardial issue may also be at play. Screening for contributing causes of myocardial dysfunction is recommended, such as a non-traditional diet, hypothyroidism, etc. Regardless, this certainly reflects end-stage disease with severe left atrial dilation and development of CHF.

Given the complexity of this case, immediate referral to University of Minnesota is recommended as able. In the interim, full cardiac support is recommended as below, including off-label use of Pimobendan. This is based upon myocardial failure and a significant decline in LV pressure gradient with active CHF. The question of continuing Atenolol versus discontinuing is a difficult one. For now, I would simply decrease to SID dosing until reassessment is available.

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.

Prognosis is poor to grave long-term given what is seen here. Our goal is to stabilize the situation and maintain quality of life for the short-term. Patient is at high risk for acute decompensation and sudden death, despite medical management.

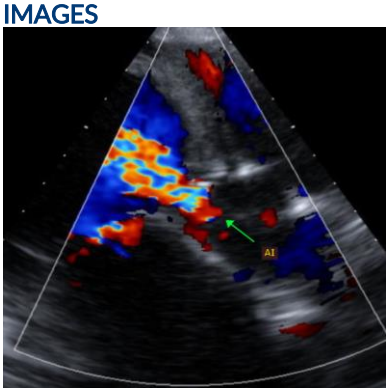
PLAN

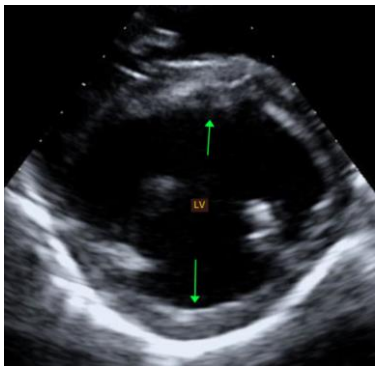
Referral ASAP. In the interim, institute Lasix 1-2mg/kg PO q12h. Institute Pimobendan 0.25mg PO q12h. Decrease Atenolol to SID dosing. Institute Spironolactone 1-2mg/kg PO q12h. *If patient is unstable or has any further decline, hospitalization for supportive care is recommended.

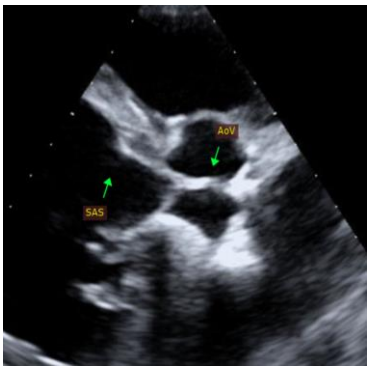
Monitor renal values and BP in 1-2 weeks than every 3-4 months lifelong. If doing well and BP is >130mmHg, institute ACE-I 0.5mg/kg PO q12h.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

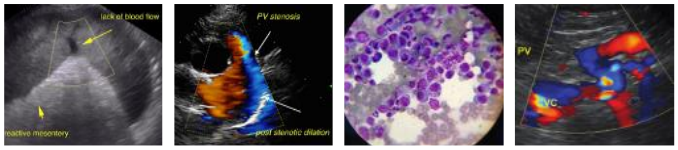
IMAGES







SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Charlie Tricker

SPECIES
Canine

BREED
Standard Poodle

SEX
Male

AGE
4 years

WEIGHT
52.7lbs; 23.9kgs

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

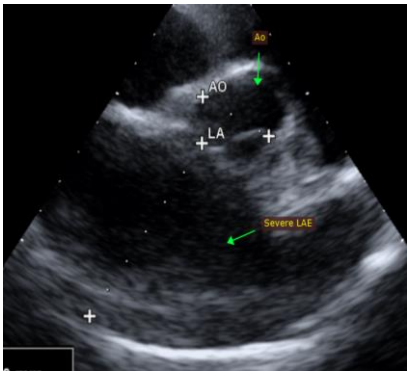
IMAGING PERFORMED BY
Melissa Weisman, DVM

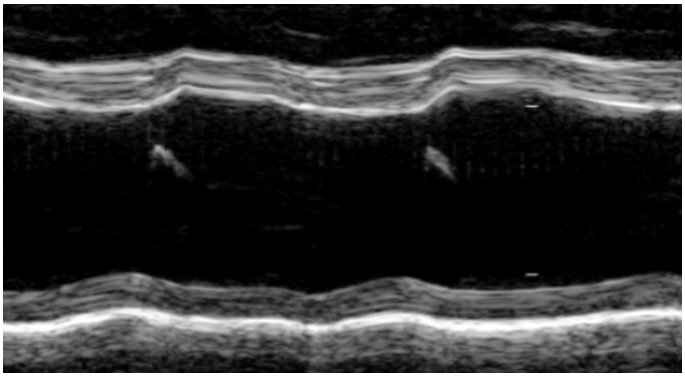
HOSPITAL NAME
Minnesota Veterinary Ultrasound

REFERRING VET
Dr. Weisman

INVOICE
25187

DATE
7/6/22





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