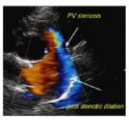
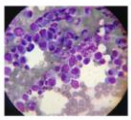
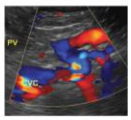
IMAGING PERFORMED BY
svsmobileimaging.com 309 - 737 - 3070

SVS IMAGING

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

PATIENT

Chloe Haber

SPECIES

Canine

BREED

Bichon/Maltese/ShihTzu

SEX

Female Spayed

AGE

8 years

WEIGHT

16lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Neumeister

INVOICE

28043

DATE

1/2/23

PRESENTING CLINICAL SIGNS

History: Grade 5/6 heart murmur. Syncope for 20 seconds has occurred twice when seeing other dogs during walk, stimulating large adrenalin rush. No coughing at night.

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

Significant cardiomegaly. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 125bpm (range 100-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse nodular thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial enlargement. Normal MR velocity. Moderate LV dilation with hyperdynamic myocardial function and evidence of volume overload. The tricuspid valve appears thickened with mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. Mild right heart dilation. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No pulmonic or aortic insufficiency. No effusions or tumors.

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	5.2	3.4	NM	2.8	45	76	0.3
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	120	1.4	0.84	7.3	3.0	4.1	2.2
*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 *Note: All measurements based upon multi-modal images and methods. An average value is reported.*				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)
				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

IMAGING PERFORMED BY
svsmobileimaging.com 309 - 737 - 3070

SVS IMAGING

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

PATIENT

Chloe Haber

SPECIES

Canine

BREED

Bichon/Maltese/ShihTzu

SEX

Female Spayed

AGE

8 years

WEIGHT

16lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Neumeister

INVOICE

28043

DATE

1/2/23

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial enlargement indicates there is an elevated risk for spontaneous congestive heart failure. Mild pulmonary hypertension is noted, which is likely secondary to chronic LA pressure elevation. No additional comorbidities are seen. The ECG is unremarkable with a normal sinus rhythm.

Exertional syncope in this patient is most likely cardiogenic in origin. Possible causes include poor forward blood flow leading to hypoxia, early CHF, significant pulmonary hypertension (mild seen), an arrhythmia (ECG unremarkable) and/or blood pressure swings. In light of severity of disease, lack for sufficient cardiac output and/or early CHF is the most likely cause. Full lifelong cardiac supportive therapy is warranted as below. If the episodes recur in the future, further evaluation such as a holter monitor may be indicated.

Once in CHF, long term prognosis is guarded to poor, however most dogs are able to maintain a good QOL on medications for an average of 8-12 months. Should syncope persist despite medications (particularly with exertion), revisiting the situational component of the episodes, systemic possibilities, etc. is recommended.

Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or worsening collapse episodes in the future.

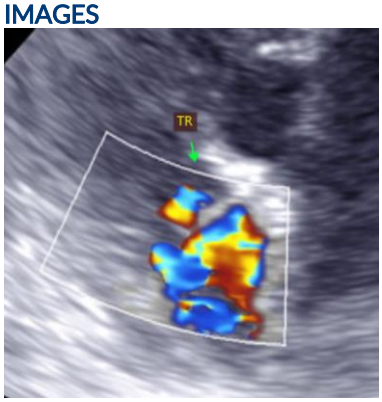
PLAN

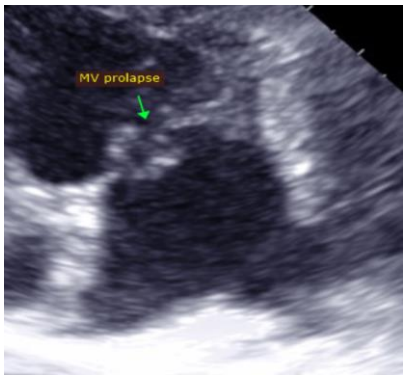
Administer furosemide 1-2mg/kg PO q12h. Administer Pimobendan 0.2-0.3mg/kg PO q12h. Administer Spironolactone 1-2mg/kg PO q12h.

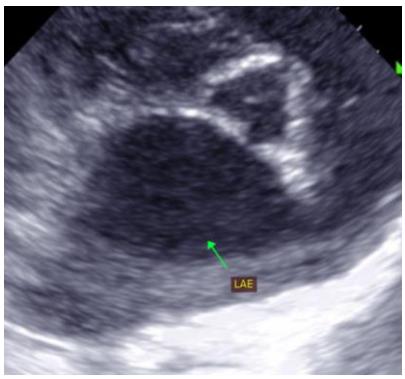
Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics. If patient is doing well at home and BP is >130mmHg, institute ACE-I 0.5mg/kg PO q12h.

Recheck: Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

IMAGES

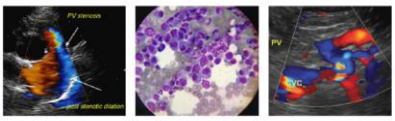






IMAGING PERFORMED BY
svsmobileimaging.com 309 - 737 - 3070

SVS IMAGING



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

PATIENT

Chloe Haber

SPECIES

Canine

BREED

Bichon/Maltese/ShihTzu

SEX

Female Spayed

AGE

8 years

WEIGHT

16lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

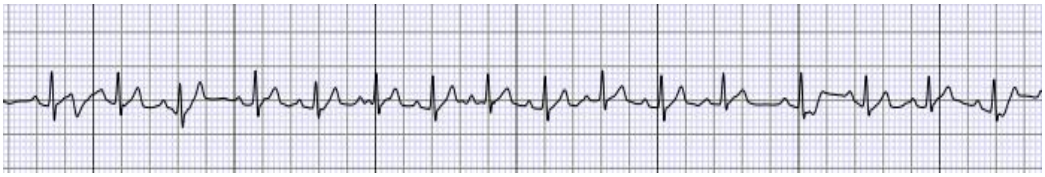
Dr. Neumeister

INVOICE

28043

DATE

1/2/23



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. 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