



PATIENT

Rosie Pedersen

SPECIES

Canine

BREED

Cavachon

SEX

Female Spayed

AGE

11 years

WEIGHT

19.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Josey

INVOICE

20888

DATE

9/3/21

PRESENTING CLINICAL SIGNS

History: Presented 8/12/21 after hours for difficulty breathing.

-Abnormal PE/Chem/CBC/UA Results: BAR on exam, breathing relatively normal on presentation. Grade 4/6 primarily left-sided heart murmur.

-Current medications: Was placed on furosemide PO 20mg SID and Enalapril PO 5mg SID (currently still on).

-CBC and chemistry performed (8/24):Abnormalities included SDMA 16 ug/dl and chloride 107 mmol/L.

-Blood pressure: 186/121 MAP 148 HR 148 bpm 173/98 MAP 120 HR 156 bpm 173/97 MAP 102 HR 149 bpm

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Significant cardiomegaly with concern for 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 180bpm. 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 tachycardia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Moderate LV dilation with hyperdynamic myocardial function. The tricuspid valve appears thickened with moderate TR. Velocity consistent with mild to moderate pulmonary hypertension. Mild right heart enlargement. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. No AI. Trace PI. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	3.3	2.8	2.2	54	86	0.43
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	150	1.1	0.92	8.8	3.0	3.8	1.7
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)



PATIENT

Rosie Pedersen

SPECIES

Canine

BREED

Cavachon

SEX

Female Spayed

AGE

11 years

WEIGHT

19.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Josey

INVOICE

20888

DATE

9/3/21

BODY WEIGHT DEPENDENT PARAMETERS

**Note: All measurements based upon multi-modal images and methods. An average value is reported.*

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

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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Mild to moderate pulmonary hypertension is noted, which is likely secondary to active congestion. No additional issues are identified. The ECG is unremarkable with a sinus tachycardia.

In light of the clinical signs, chest radiograph findings and severity of disease on echocardiogram, the diagnosis of congestive heart failure is supported and continued medications are recommended as below including twice daily Lasix therapy. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

PLAN

Institute Pimobendan 0.3mg/kg PO q12h. Administer Furosemide 1-2mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. If doing well and BP >130mmHg, administer ACEI 0.5mg/kg PO q12h. Consider hydrocodone if needed for QOL. Monitor renal values/BP q3-4 months lifelong.

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

IMAGING PERFORMED BY

svsmobileimaging.com 309 - 737 - 3070



Clinical Sonography & Telemetry

EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Rosie Pedersen

SPECIES

Canine

BREED

Cavachon

SEX

Female Spayed

AGE

11 years

WEIGHT

19.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Josey

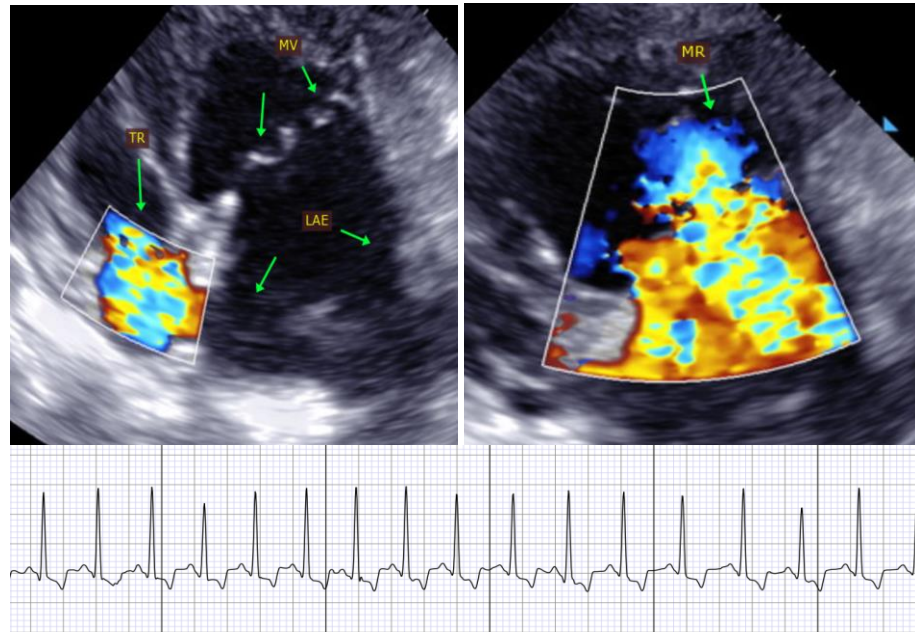
INVOICE

20888

DATE

9/3/21

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. 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