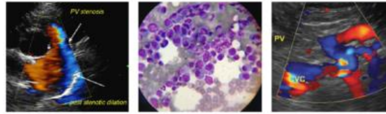
IMAGING PERFORMED BY

svsmobileimaging.com 309 - 737 - 3070



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

PATIENT
Gracie Konrardy

SPECIES
Canine

BREED
Pomeranian

SEX
Female Spayed

AGE
10 years

WEIGHT
14lbs

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

IMAGING PERFORMED BY
Sarah Pender, CVT

HOSPITAL NAME
SVS Imaging QC

REFERRING VET
Dr. Garro

INVOICE
21902

DATE
11/5/21

PRESENTING CLINICAL SIGNS

History: Few episodes of seizures v syncope (latter suspected). Some coughing as well. Even last night occurred after excitement and coughing. SRR over the weekend was 50+. Murmur, PMI on the right, grade 5/6 (duration unknown, last exam was 2012), HW test negative. BP: 172, 170, 172
-Current medications: Started furosemide 12.5mg BID and pimobendan 1.25mg x 1.5-tab BID.

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

Significant cardiomegaly with PV dilation. Concern for impending 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 130bpm (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. Marked diffuse thickening of mitral valve leaflets with marked prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial enlargement. Normal velocity. LV is dilated with hyperdynamic myocardial function and evidence of volume overload. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Normal velocity. Mild right heart enlargement. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency noted. No pericardial or pleural effusion 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	NM	2.5	2.3	2.5	56	87	0.2
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	100	1.6	1.0	6.4	2.7	3.4	1.5
*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.* 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)

PATIENT
Gracie Konrardy

SPECIES
Canine

BREED
Pomeranian

SEX
Female Spayed

AGE
10 years

WEIGHT
14lbs

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

IMAGING PERFORMED BY
Sarah Pender, CVT

HOSPITAL NAME
SVS Imaging QC

REFERRING VET
Dr. Garro

INVOICE
21902

DATE
11/5/21

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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

Episodes in this patient are most likely cardiogenic in origin. Possible causes include poor forward blood flow leading to hypoxia, early CHF (suspected), pulmonary hypertension (not seen), an arrhythmia (not seen nor suspected) and/or blood pressure swings. In light of severity of disease on echocardiogram and the included chest radiographs, early CHF is suspected, and full lifelong cardiac supportive therapy is warranted as below. Should syncope continue despite medications (particularly with exertion), revisiting other possible contributing issues is recommended at that time (BP, holter, etc.).

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. Long term prognosis is typically poor at this stage (stage C), with most dogs able to be maintained on medications for an average of 8-12 months after the diagnosis of CHF. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Elective anesthesia, fluid therapy and/or steroids should be avoided life-long.

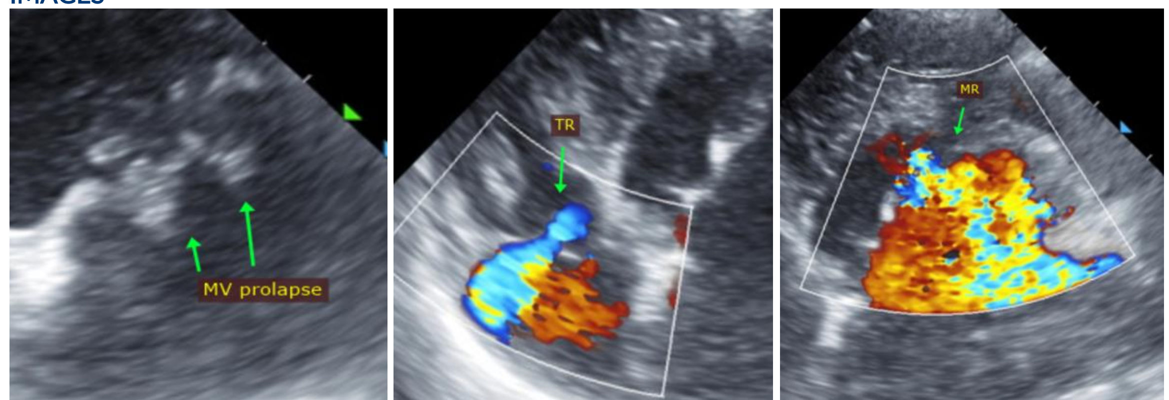
PLAN

Administer furosemide 1-2mg/kg PO q12h. Administer Pimobendan 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 lifelong. If BP >130mmHg and patient is doing well at home, institute ACEI 0.5mg/kg PO q12h at that time.

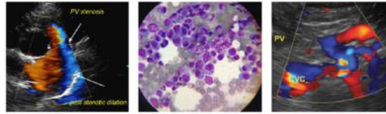
Recommend recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

IMAGES



IMAGING PERFORMED BY

svsmobileimaging.com 309 - 737 - 3070



Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Gracie Konrardy

SPECIES

Canine

BREED

Pomeranian

SEX

Female Spayed

AGE

10 years

WEIGHT

14lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

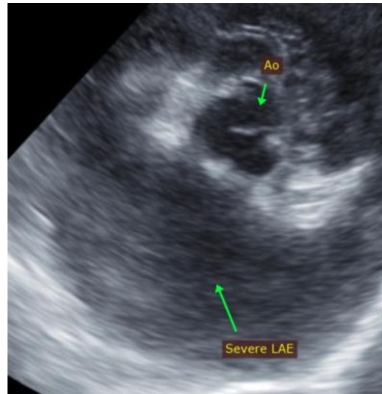
Dr. Garro

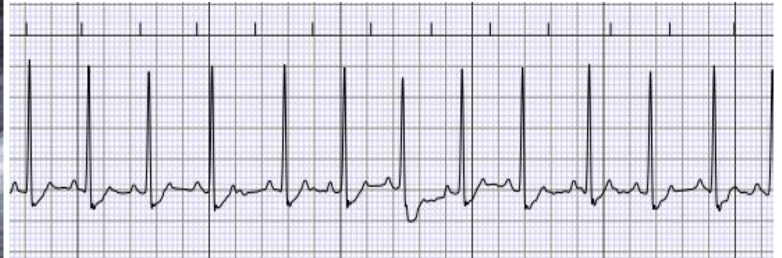
INVOICE

21902

DATE

11/5/21





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