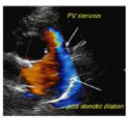
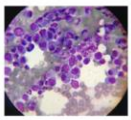
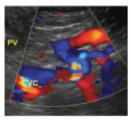
IMAGING PERFORMED BY
svsmobileimaging.com 309 - 737 - 3070

SVS IMAGING

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

PATIENT

Luna Gonzalez

SPECIES

Canine

BREED

Shih Tzu

SEX

Female Spayed

AGE

3 years

WEIGHT

9.2lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Vivek

INVOICE

25442

DATE

7/20/22

PRESENTING CLINICAL SIGNS

History: Luna collapsed and was brought to a specialty hospital. Treated with medication for allergies. Radiographs reveal an enlarged heart. No heart murmur was noted. On denamarin for elevated liver values.
-Abnormal PE/Chem/CBC/UA Results: ProBNP 11.0 (0-6.0) High ALT 160 H Creatinine/BUN ratio 38

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no obvious prolapse into the left atrial lumen. No MR; normal left atrial dimension. Mildly increased LV wall thickness (0.85 globally). Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. Mild RV thickening is noted as well. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. 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	NA	1.8	1.4	1.1	43	78	0.18
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	0.8	4.2	1.4	1.7	1.0
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Essentially normal cardiac structure and function. No obvious valvular regurgitation or chamber dilation. Mild biventricular LV hypertrophy is noted, which may indicate systemic hypertension, dehydration/hypovolemia, a primary or infiltrative process in the myocardium (unlikely), and/or be a normal variant. No concurrent issues such as systolic dysfunction or pulmonary hypertension are noted in this study. Full lab work is highly recommended to assess for hydration/volume changes.

PATIENT

Luna Gonzalez

SPECIES

Canine

BREED

Shih Tzu

SEX

Female Spayed

AGE

3 years

WEIGHT

9.2lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Vivek

INVOICE

25442

DATE

7/20/22

In a dog with reported collapse, common cardiac-associated causes include vasovagal events, arrhythmias, poor cardiac output secondary to structural disease, or pulmonary hypertension. None of these are seen today, however this does not rule out intermittent brady or tachyarrhythmias or vasovagal events, and a holter monitor may be recommended pending systemic evaluation. LVH may or may not be related as well, as conditions such as an adrenal tumor leading to BP swings, renal failure, anemia, etc. should also be considered (i.e., through lab work and AUS). Finally, extra-cardiac causes (i.e., neurologic) also cannot be ruled out.

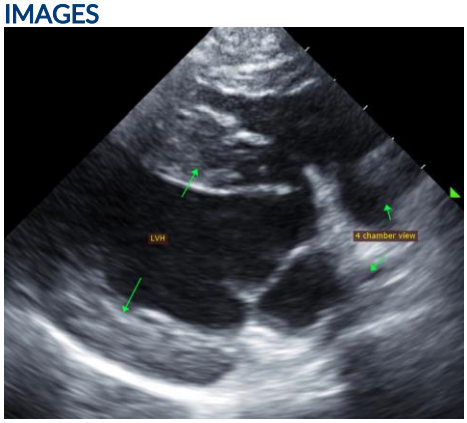
From a structural standpoint, no cardiac medications are clearly indicated.

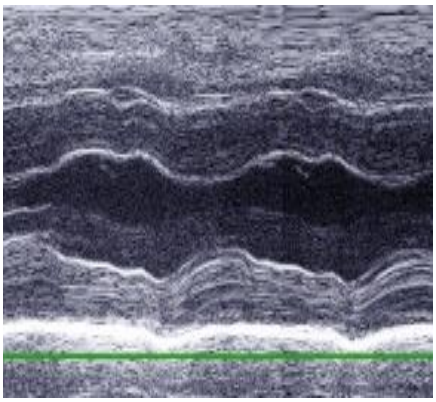
PLAN

Baseline BP, lab work and ECG recommended.

Recheck echocardiogram is recommended in 1 year, sooner if clinical signs arise.

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