



PATIENT

Diamond Fleetwood

SPECIES

Canine

BREED

Pug

SEX

Female Spayed

AGE

8.15.08

WEIGHT

19.88lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Andi Parkinson, RDMS

HOSPITAL NAME

Everhart Veterinary Hospital

REFERRING VET

Dr. Notarangelo

INVOICE

22407

DATE

2.7.22

PRESENTING CLINICAL SIGNS

History: Known diabetic with good control in December of 2021. 1/31/22: presented for routine glucose curve, poor control shown, adjusted insulin. 2/3/22: presented for vomiting/urinary accidents, diagnosed with DKA, pancreatitis and UTI, started hospitalization/supportive IV fluids, insulin, antibiotics, antiemetics. 2/5/22: pet presented for continued care. After initial exam, pet experienced syncopal event. Pet has not been very responsive to insulin. Average blood sugars 500 to 700. Advise bicavitory to assess GI organs/pancreas in addition to heart.

-Pertinent abnormal PE/Chem/CBC/UA Results: 2/5/22: ALKP 486, glu 405, lip 2615, chol 405 K+ 3.3, CI 102. 2/3/22: ALKP 414, amyl 1833, crea 2.1, BUN 34, chol 413 glu 625, lip >6000, CL 92 5/28/21: ALKP 557, glu 429, chol 352, CI 97, lip 3094 K+ 3.4.

-Current medications: Enrofloxacin, Clavamox, Cerenia, Metronidazole.

-Sedation used: Not required to complete full diagnostic ultrasound.

-STAT: Not requested.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with mild tricuspid regurgitation. Velocity consistent with mild pulmonary hypertension. Normal right atrial and ventricular diameter and morphology. Normal MPA dimension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and mildly elevated 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	3.1	NM	1.2	52	84	NM
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	0.93	1.0	9.0	1.5	2.3	1.1
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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

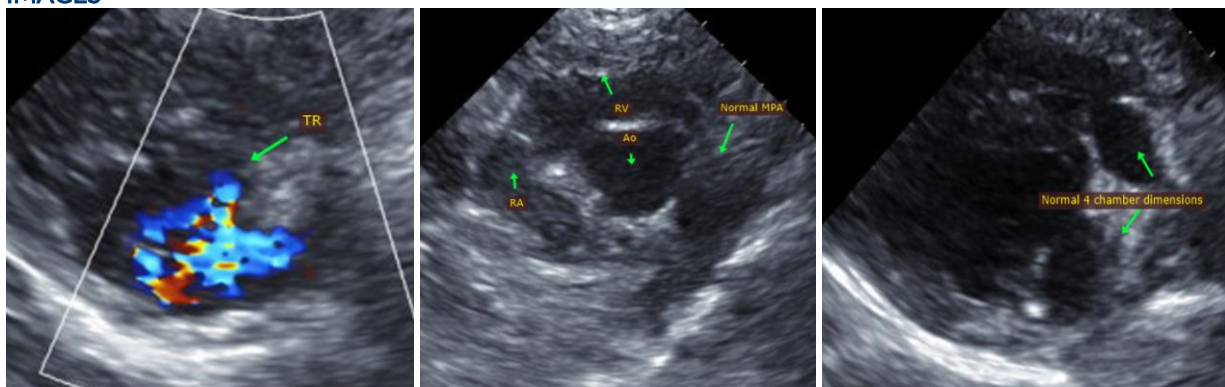
Essentially normal cardiac structure and function is identified in this study. The only abnormality seen is mild TR with mildly elevated pulmonary pressures. Given a lack of right heart and MPA enlargement, this is likely a subclinical finding. No additional issues are identified.

No structural cause of a syncopal episode is clearly identified. While pulmonary hypertension can certainly lead to exertional dyspnea and/or collapse, this is only commonly seen with severely elevated pressures or an acute event like a PTE. This is not ruled out given the complicated systemic history; however, is concerned less likely based upon the clinical picture. Other possibilities include vasovagal event, arrhythmic issues or BP swings, and further evaluation may be indicated (baseline ECG/BP to start). My assumption in this case is this was due to systemic illness and potentially a vasovagal event; however, follow up is advised should the episode recur.

No cardiac medications are indicated. Monitor at home for any further episodes, cough/labored breathing and/or exercise intolerance.

Recheck echocardiogram is recommended 1 year to screen for any progressive changes, sooner if any additional issues 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. 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