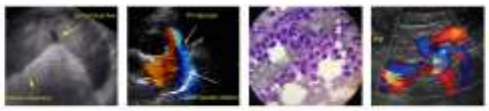
PAUS
Pet Animal Ultrasound Service



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

PATIENT

Niki McCrewell

SPECIES

Canine

BREED

Pomeranian

SEX

MN

AGE

14 years

WEIGHT

9.31 lbs

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

Mass VS

REFERRING VET

Anne Masloski, DVM

INVOICE

13030

DATE

1/11/22

PRESENTING CLINICAL SIGNS

Recheck echo. History chronic valvular disease - Stage B2. Current presentation: Niko had a collapse episode last month after getting up from sleeping. He fell over, was very lethargic and seemed mentally dull. No further episodes and has returned back normal. Coughing several times a day, worse in the morning. The increase in lasix initially helped but does not seem to be helping at this time (lasix increased 11/16). Good appetite and activity level is normal. On auscultation:
NSR, grade IV/VI murmur with PMI left apical area, PSS, lung fields clear. BP: 170 mmHg x 3; 140 mmHg x 2. Current cardiac medications:
1) Lasix 20mg 1/2 tab am with 1 tab pm,
2) Pimobendan/Vetmedin 1.25mg 1 tab twice a day
3) Hycodan 5mg 1/2 tab twice a day----increase to 3/4 tab twice a day
-Pertinent previous echo findings (6/8/21 Maggie Machen Lamy, DVM, DACVIM): LA 2.6 cm; LA:Ao 1.8; LV 3.1 cm; moderate LAE/LVE; severe MR; mild TR (2.9 m/s; 34 mmHg); mild pHTN.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	5.5	2.9	--	2.3	58.1	92.4	0.17
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	NM	1.88	0.88		3.2	3.1	

Cardiac Presentation

The echocardiogram in this patient demonstrated moderately, subjectively mild progressive enlarged **left atrial** size based on 2 different LA measurement methods. Mild deviation of the interatrial septum towards the right atrium, suggestive of increased left atrial pressure, was present. The cranial and caudal **mitral** valve leaflets presented static vegetative thickening consistent with endocardiosis, no evidence of valvular prolapse or chordae tendinea rupture. Doppler indicated measurable moderate eccentric insufficiency. The **left ventricle** presented normal thicknesses with maintained linear contour with static increased volume. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left**

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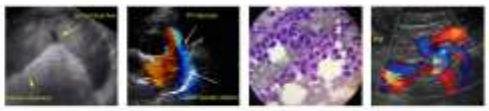

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ventricular outflow tract demonstrated normal systolic laminar flow with previously noted aortic valve Insufficiency measuring 2.8 m/s end-diastolic velocity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated static mild thickening and insufficiency on color doppler assessment. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Chronic mitral valve disease (ACVIM B2)
- Mild progressive LA enlargement, static LV size
- TR - estimated pulmonary pressure gradient (35 mmHg) consistent with mild elevated pulmonary pressure / mild pulmonary hypertension
- AV insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the patient's current clinical state and assuming no evidence of cardiogenic edema, the cardiac presentation at this time likely Indicates continued compensation. However, prognosis going forward remains guarded in the face of mild subjective progressive LA enlargement. Continued current medication protocol is recommended without current clinical signs. Given the mild progressive LA enlargement, Initiation for spironolactone 1.0-2.0 mg/kg PO BID in addition to Lasix may prove beneficial. Potential for possible paroxysmal arrhythmia as a potential cause of the collapsing episode may be considered. ECG assessment is recommended if not recently done. Continued monitoring of resting respiration rate is advised. Continued monitoring of renal parameters and blood pressure is indicated. Recheck echocardiogram Is suggested in 6 months, sooner if progressive clinical signs or recurrent collapsing episodes are noted.

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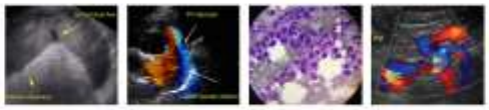

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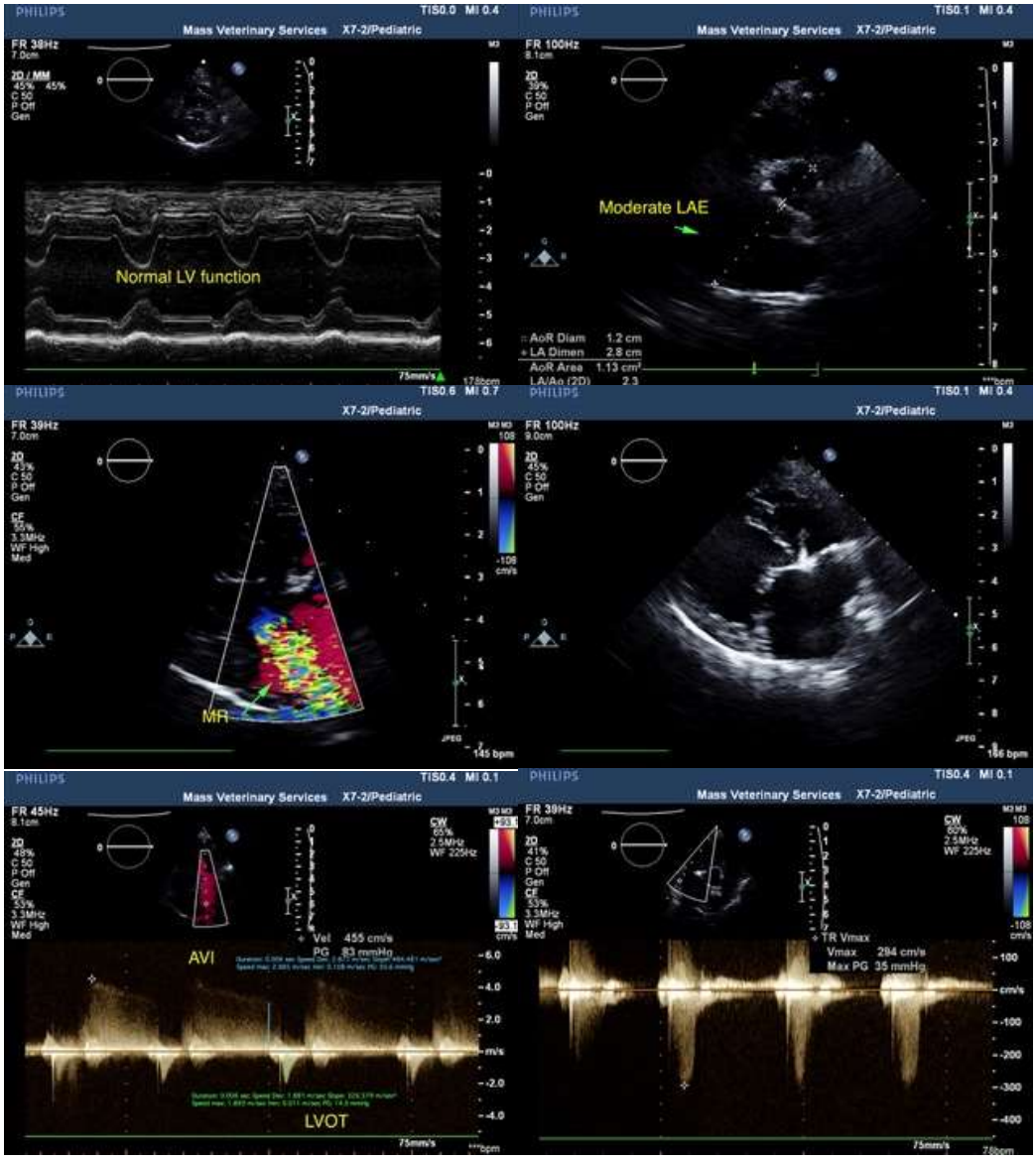

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com