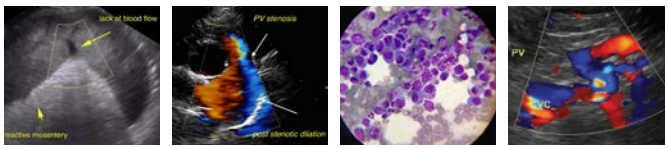
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Ray Howell

SPECIES
Canine

BREED
Shih Tzu X

SEX
Neutered Male

AGE
12 Years

WEIGHT
18.6 Pounds

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

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Warren Animal Hospital

REFERRING VET
Dr. Nicole

INVOICE
33990

DATE
1/5/22

PRESENTING CLINICAL SIGNS

Grade IV/VI murmur, prev. cardiac u/s 2/2018 (attached). Current meds: Enalapril, Pimobendan
Abnormal PE/Chem/CBC/UA Results: 3/19/21-mild elevated ALP 567

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	5.0	1.5	1.27	1.2	53	86.3	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				
PATIENT	118	1.1	1.0		2.8	2.25	

Cardiac Presentation

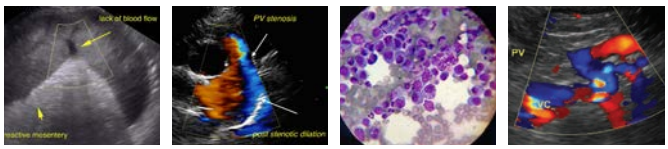
The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. 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 ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. Doppler indicated minor tricuspid valve insufficiency. 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

- Chronic mitral valve disease (ACVIM B1)
- Minor TR

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The overall presentation of the heart continues to indicate compensated chronic mitral valve disease. The lack of left atrial enlargement indicates that the potential risk of complication currently and going



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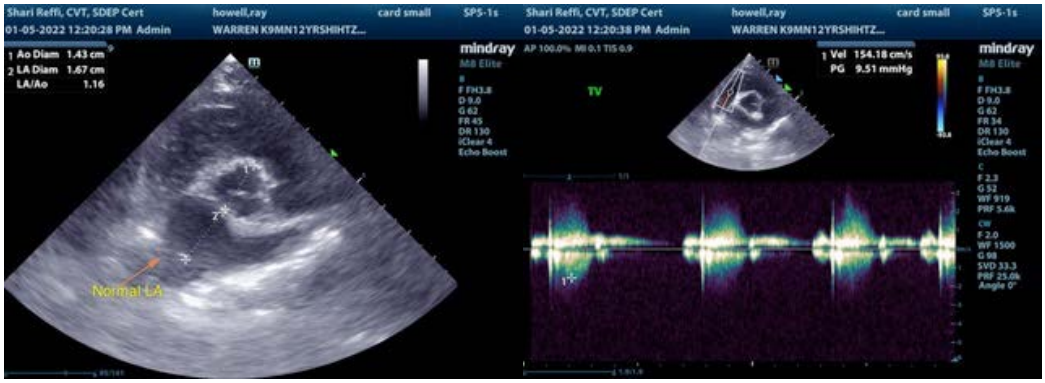
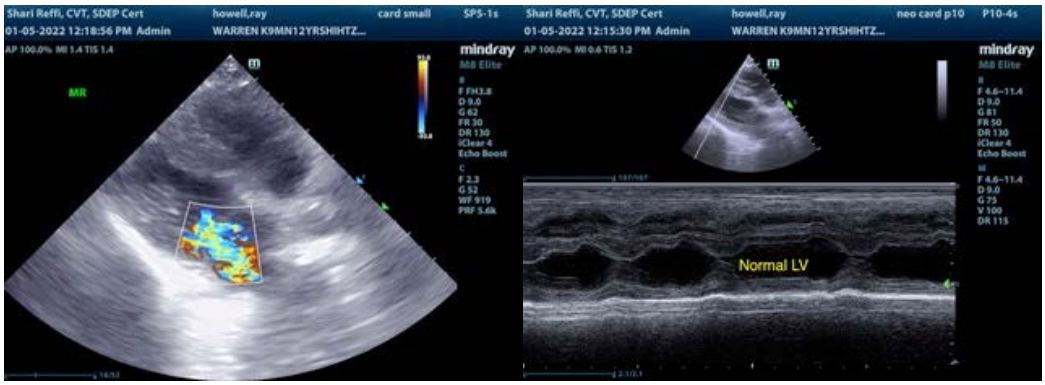
forward remains low. In a non-clinical patient without evidence of clinical signs, cardiac medications are not specifically indicated. Monitoring of blood pressure is recommended if previous evidence of hypertension given current ACE inhibitor medication. No anesthetic contraindications if anesthesia is required. Recheck echocardiogram suggested in 6 months, sooner if clinical signs suggestive of cardiac disease develop.





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