



PATIENT

Bella Lichtenberger

SPECIES

Canine

BREED

Pitbull Mix

SEX

FS

AGE

12 years 6 months

WEIGHT

43 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet

REFERRING VET

Dr. Verhalen

INVOICE

12470

DATE

10/28/21

PRESENTING CLINICAL SIGNS

-New grade IV/VI heart murmur. No clinical signs at home. Current meds: Trazodone, Thyroid pills, Apoquel.

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	5.2	1.3	NM	1.7	41.8	73.2	0.36
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	130	1.2	0.8		4.3	4.2	

Cardiac Presentation

The echocardiogram in this patient demonstrated mildly enlarged **left atrial** size based on 3 different LA measurement methods. Mild deviation of the interatrial septum towards the right atrium, indicative of mild increased left atrial pressure, was present. 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 with minor subjective increased left ventricle 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 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. Color doppler assessment revealed mild 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.



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ULTRASONOGRAPHIC FINDINGS

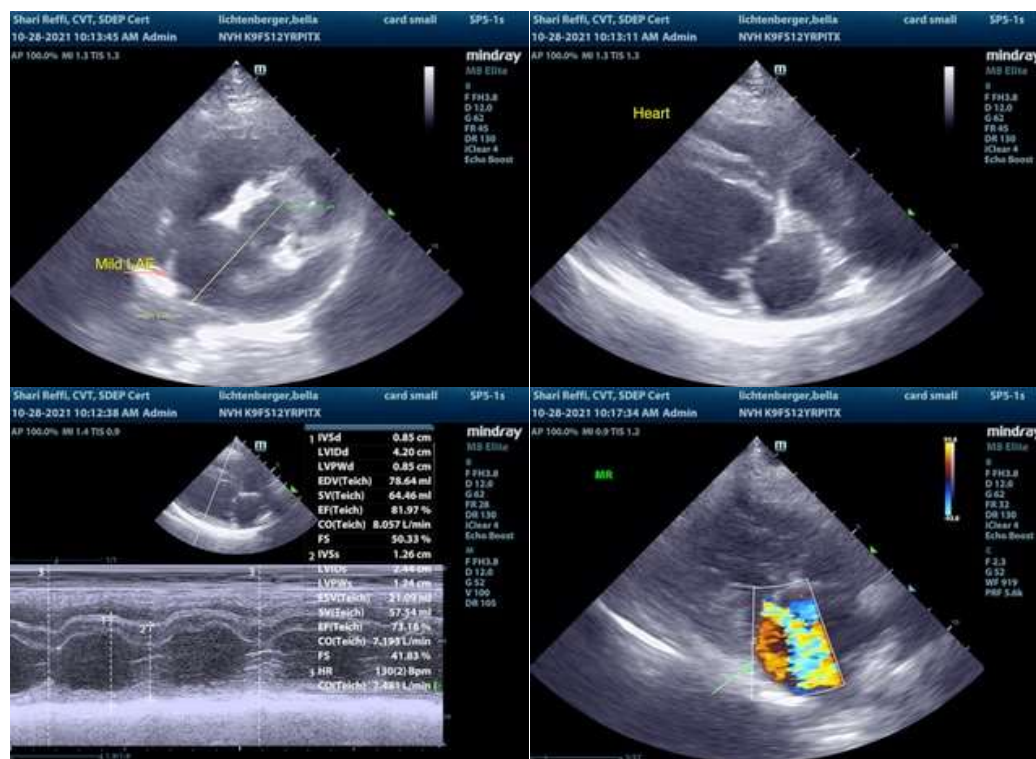
Primary Findings

- Chronic mitral valve disease (ACVIM B2)
- Tricuspid valve insufficiency - estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The mild left atrium enlargement, as well as subjective mild increased left ventricle volume, indicate that the risk of future complication is elevated, yet prognosis at this stage is highly variable. In a non-clinical patient with only mild left heart changes is present, specific cardiac medications are not clearly indicated. Having said that, mitral valve disease in larger dogs may potentially progress faster than mitral valve disease in smaller breed dogs. Therefore, Pimobendan could be considered in this case as this medication may help prolong cardiac changes associated with mitral valve disease.

Anesthetic risk, if required, is considered mildly elevated. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with heart 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



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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