



PATIENT PRESENTING CLINICAL SIGNS

Piper Belluardo

History:

SPECIES

Feline

- Grade v/vi murmur
- Okay for anesthesia?

BREED

Abnormal PE/Chem/CBC/UA Results: RBC 12.67, hemoglobin 17.5, neutrophils 14.98, ALP 77

DSH

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

SEX

Male Intact

AGE

2y

WEIGHT

12 lbs

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	--	246	0.41	1.44	0.43	48	84
FELINE CARDIAC PARAMETERS	LA/AO (M-mode)	LA/AO HEART BASE (Sisson)	LAD LA MAX 4 Chamber	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	1.6	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	--	1.3	1.5	2.4	2.0	--	

Adapted from June Boon, Veterinary Echocardiography, 1998
 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe, CVT

HOSPITAL NAME

Loving Care VH

REFERRING VET

Dr. Steele

INVOICE

13311

DATE

3/24/26

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. Mild eccentric MR noted on doppler. The **left ventricle** presented normal 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 and angles of the myocardium. The **left ventricular outflow** tract demonstrated a dynamic flow pattern with subjective structural integrity and normal visualized aortic valve. BOrdereline to mild increased measured LV outflow 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 adequate linear morphology and kinetics. No overt TR. Noted on doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed overtly normal visible valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Borderline to mild increased measured RV outflow velocity. No visible **pericardial** or free pleura fluid was noted or extra



PATIENT

Piper Belluardo

SPECIES

Feline

BREED

DSH

SEX

Male Intact

AGE

2y

WEIGHT

12 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe, CVT

HOSPITAL NAME

Loving Care VH

REFERRING VET

Dr. Steele

INVOICE

13311

DATE

3/24/26

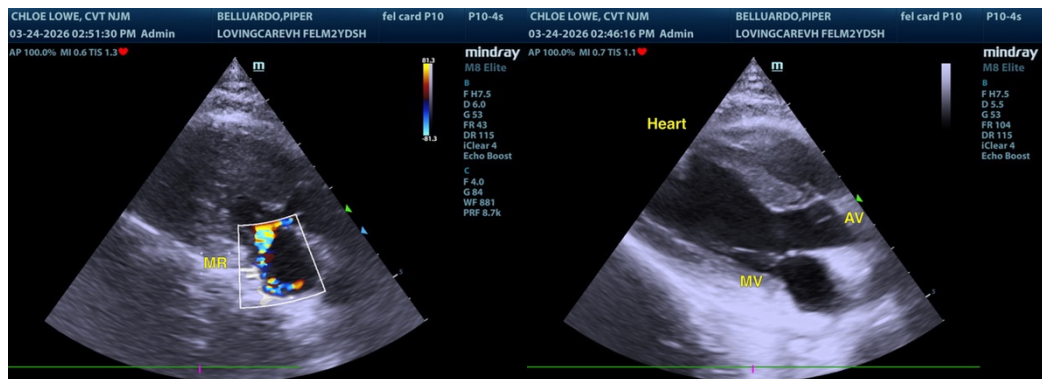
cardiac pathology in the visible planes. The cranial mediastinum and pericardial regions were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Overall, normal cardiac structure/function
- Borderline to mild increased measured LV/RV outflow velocities with dynamic LV outflow pattern
- Mild eccentric MR

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No evidence of significant clinical issues such as left or right heart chamber enlargement or volume overload, LV systolic dysfunction, HCM criteria or other structural cardiomyopathy. No evidence of arrhythmia. The cardiac murmur may be secondary to eccentric MR, borderline increased measured LV/RV outflow velocities or combination. Without overt evidence of structural or valvular pathology, this may essentially classify as a flow murmur. Possible non-obvious or visible dynamic LV outflow obstruction, i.e. SAM or dynamic right ventricular outflow tract obstruction is possible. No obvious visible aortic or pulmonic valve pathology as a definitive cause of stenotic disease which is thought less likely yet not definitively excluded given young age of the patient. Regardless of classification, the current hemodynamic effects of the murmur appear low. No overt indication for cardiac medication. Ideally, referral to local cardiologist for further clarification and assessment is recommended. Given current stable cardiac presentation and conservative monitoring of the murmur would be more conservative. Current anesthetic risk is considered mild. If elected, the following protocol is suggested with clinical monitoring and appropriate judicious IV fluid administration. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.





PATIENT

Piper Belluardo

SPECIES

Feline

BREED

DSH

SEX

Male Intact

AGE

2y

WEIGHT

12 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe, CVT

HOSPITAL NAME

Loving Care VH

REFERRING VET

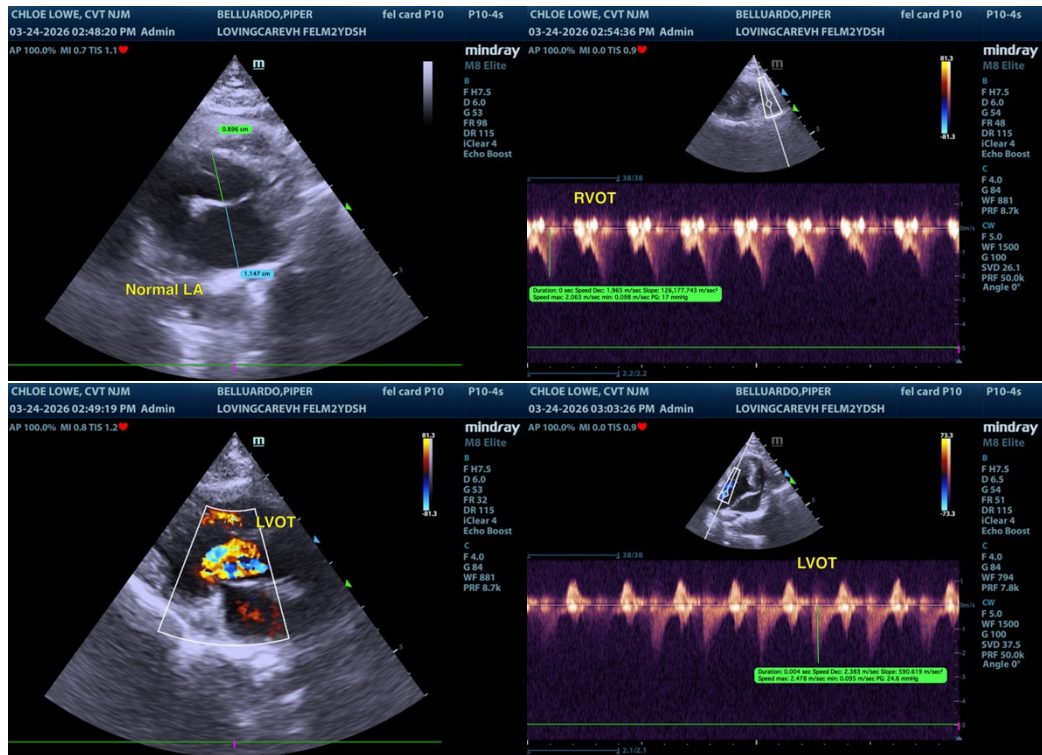
Dr. Steele

INVOICE

13311

DATE

3/24/26



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. 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