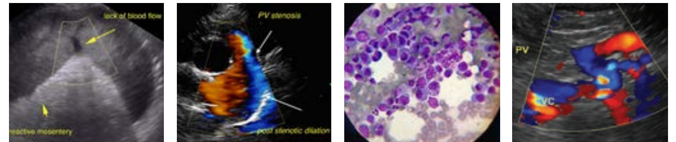


SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Pharoah Rivadeneira

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

17 Years

WEIGHT

10.2 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Animal Paradise

REFERRING VET

Dr. Bravo

INVOICE

25152

DATE

9/2/21

PRESENTING CLINICAL SIGNS

Grade 1-2/6 heart murmur, patient needs dental.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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		127	0.35	1.88	0.37	60.1	94.1
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 2D 4-chamber long axis AS to FW (Sisson) (cm)		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7		<1.6	<1.3	40-60
PATIENT		1.55	1.5		1.53	1.0	NM

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

Cardiac Presentation

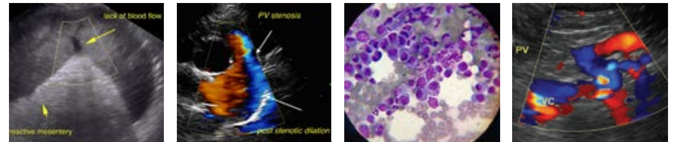
The echocardiogram in this patient demonstrated minor **left atrial** enlargement based on 2 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented subtle vegetative thickening, yet normal kinetics. The **left ventricular** septum and free wall revealed normal thicknesses, adequate contractility, with borderline increased left ventricular volume with some echogenic remodeling of the septum and free wall were noted consistent with some level of **myocardial fibrosis**. Prominent papillary muscles within the left ventricular lumen were present. These changes were most notable in the area of the basilar septum, in which a slight septal bulge in the area of the left ventricular outflow tract was present. The **left ventricular outflow** tract demonstrated turbulent flow during systole with overall normal structural integrity. The **right atrium** and auricle revealed potential for minor increased size and normal content. No evidence of left atrial or right atrial spontaneous contrast or “smoke”. No evidence of masses was noted or significant chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. The **right ventricle** was enlarged in size with normal 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 or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Subclinical unclassified cardiomyopathy

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram is consistent with probable subclinical unclassified cardiomyopathy with evidence of likely age related myocardial remodeling. The murmur in this patient is suspected to be owing to turbulent blood flow within the left ventricular outflow tract, potentially secondary to the basilar septal bulge and essential mild fixed LVOT obstruction. Overt evidence of additional valvular disease or significant valvular insufficiencies as well as evidence of systolic dysfunction were not noted. In light of



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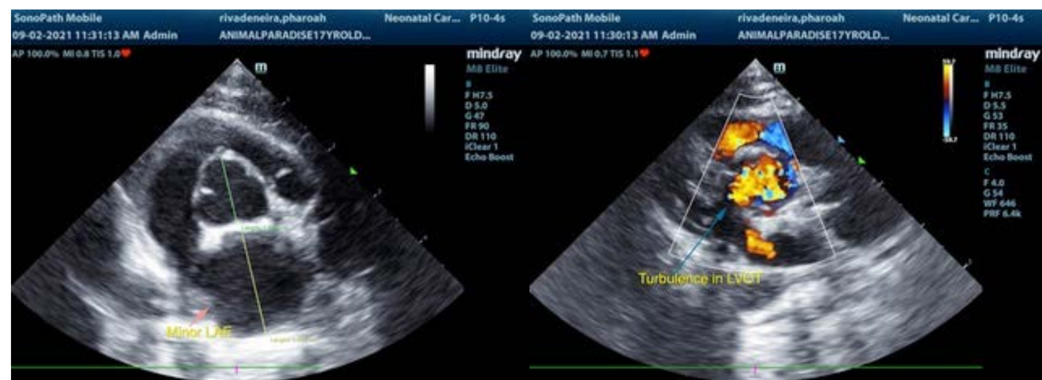
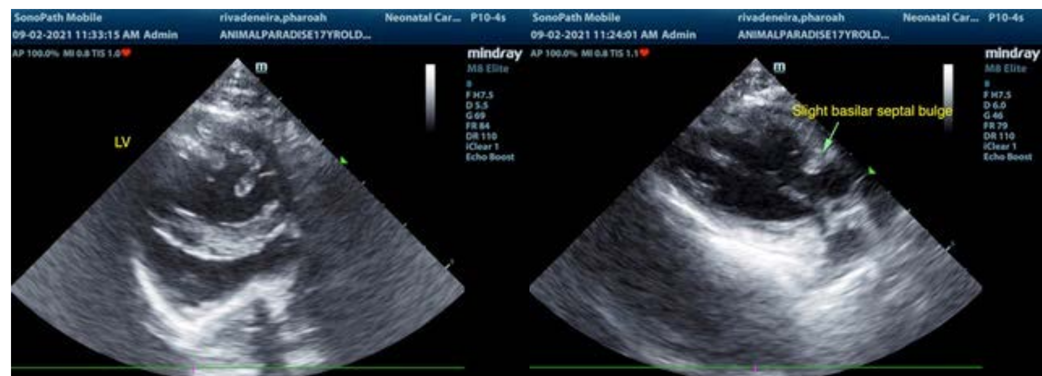
the measured LVOT velocity, the degree of fixed obstruction is not considered significant at this time. Worn out or end stage hypertrophic cardiomyopathy may also exhibit similar appearance. Regardless of classification, the lack of significant left atrial enlargement indicates that the risk of future complication is likely low, yet potentially mildly elevated. No overt indication for cardiac medications. This patient may be at mild increased anesthetic risk and increased risk for potential fluid overload.

Assuming normal blood pressure, the following anesthetic protocol may be considered with judicious IV fluid use while under anesthesia and post-operatively. 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. Recheck echocardiogram suggested in 6 months, sooner if clinical signs consistent with heart disease develop to assess for evidence of progression.





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