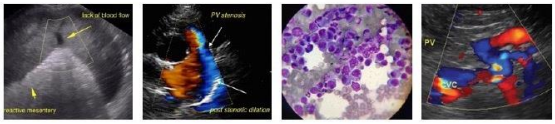




**PATIENT**

Reese Bartley

**SPECIES**

Feline

**BREED**

DSH

**SEX**

FS

**AGE**

13yr

**WEIGHT**

3.95kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Halton Peel AH

**REFERRING VET**

Walters

**INVOICE**

12757ag

**DATE**

01/23/2023

## PRESENTING CLINICAL SIGNS

Has had a history of off and on audible heart murmur in past. Last week had a weird "seizure" like episode where she seemed a bit dazed and twitchy but never collapsed or paddled or lost responsiveness. Seems to be herself since. No meds.

Abnormal PE/Chem/CBC/UA Results: Bloodwork and U/A pending.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

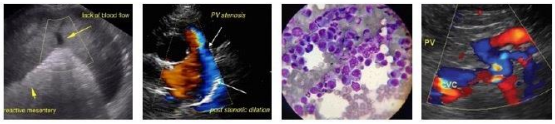
| **FELINE CARDIAC PARAMETERS** | **BODY WEIGHT** (kg) | **HR** (BPM) | **IVSd** (cm) | **LVIDd** (cm) | **LVWd** (cm) | **FS** (%) | **EF** (%) |
|---|---|---|---|---|---|---|---|
| **NORMAL PARAMETER** | ------ | 150-240 | 0.3-0.6 | 1.0-2.1 | 0.25-0.6 | 35-67 | 80-100 |
| **PATIENT** | | 177 | 0.4 | 1.35 | 0.4 | 47 | 82 |
| **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** | 1.0 | 1.2 | 1.2 | | 1.0 | 0.9 | |
| Adapted from June Boon,Veterinary Echocardiography,1998<br>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 normal left atrial size based on 3 separate LA measurements. The cranial and caudal mitral valve leaflets presented normal linear structure and kinetics. No overt MR on Doppler. The left ventricle presented normal thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity with evidence of minor age related myocardial remodeling yet without significant fibrotic or ischemic disease. The 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 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 and kinetics. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. No overt TR on Doppler. 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. No overt arrythmia noted.

### *Urinary System*

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen with moderate non-dependent articulate sediment. The sediment may indicate cellular debris / protein, crystalline debris, lipid, or mucus. The





**PATIENT**

Reese Bartley

**SPECIES**

Feline

**BREED**

DSH

**SEX**

FS

**AGE**

13yr

**WEIGHT**

3.95kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Halton Peel AH

**REFERRING VET**

Walters

**INVOICE**

12757ag

**DATE**

01/23/2023

ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.3 cm in length. The right kidney measured 3.6 cm in length.

The area of the aortic trifurcation was free of pathology.

### *Adrenal Glands*

The bilateral adrenal glands were overtly normal in size, position and shape. The left adrenal gland measured 0.27 cm. The right adrenal gland measured 0.36 cm width.

### *Spleen*

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multifocal, well-defined, symmetrical, hyperechoic nodules were present throughout the cranial to caudal parenchyma. Mild capsule asymmetry was present. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory or neoplastic changes were not noted. The hyperechoic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas. The spleen measured 0.79 cm in width at the level of the hilus.

### *Liver/Gallbladder*

The liver exhibited potential for mild generalized enlargement, maintained symmetrical capsule contour and generalized increased parenchyma echogenicity with mild uniform coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The gallbladder appeared to be divided into two separate compartments consistent with bilobed gallbladder which is a normal variant in a cat. The cystic and common bile ducts were normal.

### *Gastrointestinal*

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

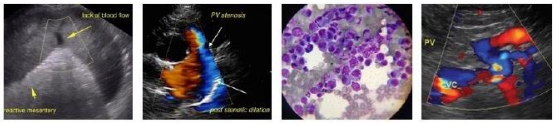
### *Pancreas*

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum, likely consistent with age related changes and considered incidental. No signs of active inflammation or neoplasia.

### *Free Abdomen*

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

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



THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

**PATIENT**

Reese Bartley

**SPECIES**

Feline

**BREED**

DSH

**SEX**

FS

**AGE**

13yr

**WEIGHT**

3.95kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Halton Peel AH

**REFERRING VET**

Walters

**INVOICE**

12757ag

**DATE**

01/23/2023

## ULTRASONOGRAPHIC FINDINGS

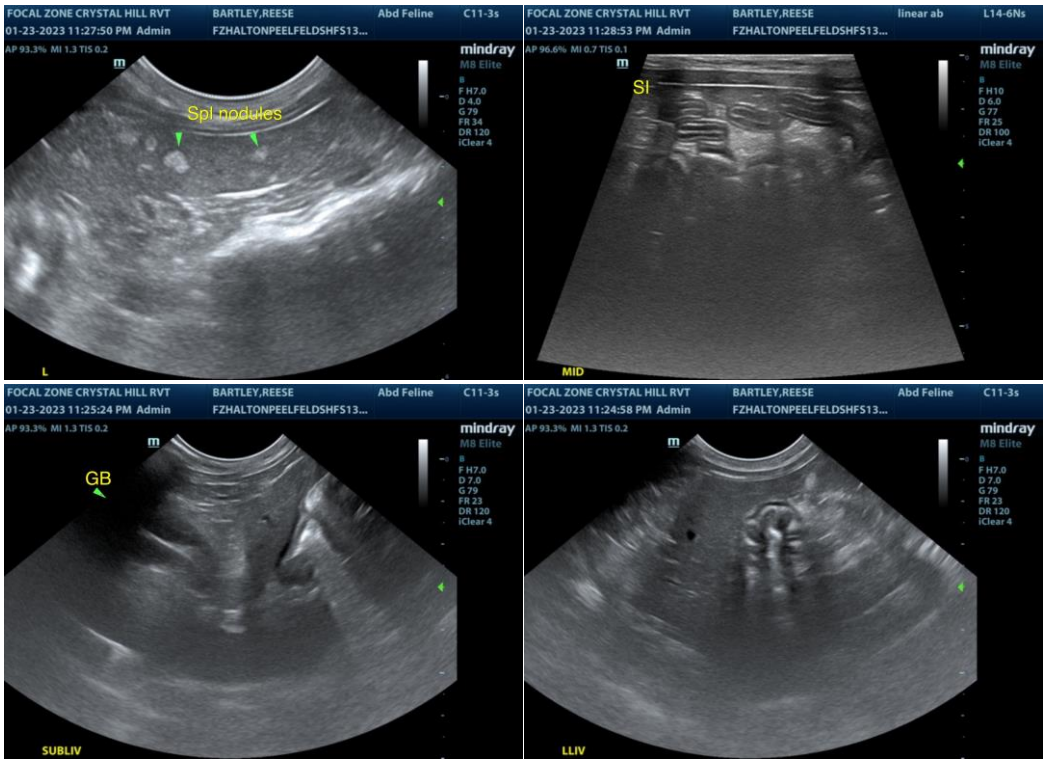
- Overtly normal cardiac structure and function
- Urinary bladder sediment
- Mild chronic renal changes
- Non-specific yet subjective benign splenic nodules-consistent with probable myelolipomas
- Possible mild hepatomegaly exhibiting mild echogenic parenchyma-non-specific
- Bilobed gallbladder-normal variant in a cat

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

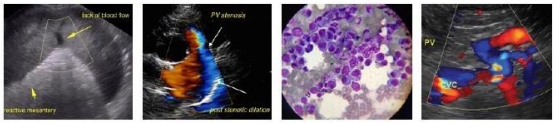
Overall, no sonographic evidence of significant cardiac or abdominal visceral pathology as an obvious cause of the heart murmur or possible seizure like episode.

A definitive cause of the patient's murmur was not evident without evidence of structural or functional cardiomyopathy. No evidence of clinical issues such as left or right heart chamber enlargement, LV systolic dysfunction, clinical pulmonary hypertension or overt valvular insufficiencies was present. If no volume changes such as dehydration or anemia are present, a benign physiologic flow murmur or small flow abnormality is suspected. Regardless, the lack of left or right heart chamber enlargement indicate that the hemodynamic effects of the murmur are minimal. No indication for cardiac medications. Continued conservative monitoring of the murmur is recommended. Recheck echocardiogram recommended in 6-12 months, sooner if murmur intensity increases or clinical signs suggestive of heart disease arise. ECG assessment to assess for paroxysmal arrythmia may be considered.

Correlation with pending lab work and UA with potential C/S is recommended. Assuming normal clotting status and using a 25g needle, a hepatic FNA for screening cytology could be considered for further assessment if clinically indicated.



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



THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

**PATIENT**

Reese Bartley

**SPECIES**

Feline

**BREED**

DSH

**SEX**

FS

**AGE**

13yr

**WEIGHT**

3.95kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Halton Peel AH

**REFERRING VET**

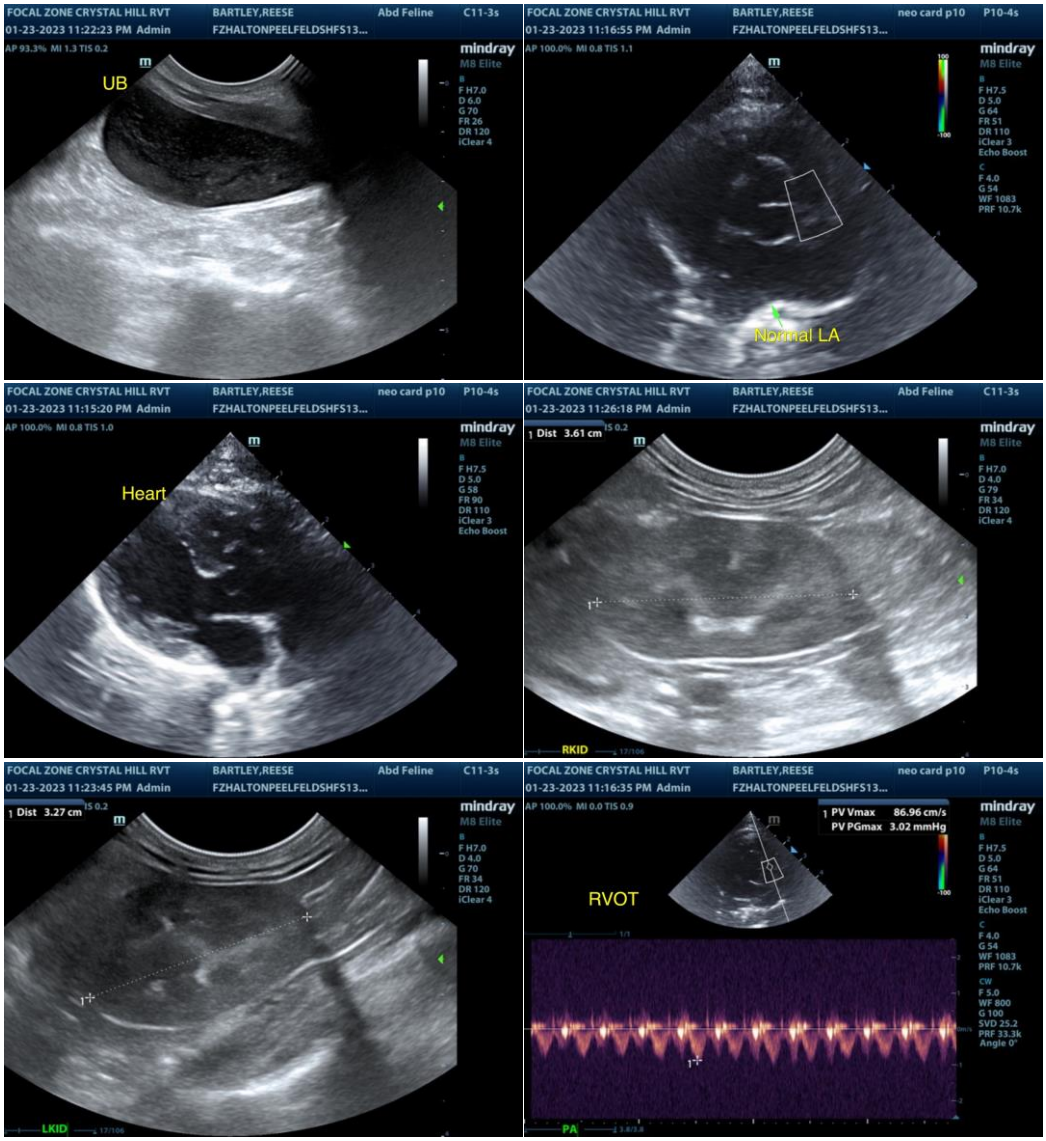
Walters

**INVOICE**

12757ag

**DATE**

01/23/2023




**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**