



PATIENT PRESENTING CLINICAL SIGNS

Pixie Duffy History: Heart murmur. Respiratory distress. No current meds

Abnormal PE/Chem/CBC/UA Results: WNL. T4 5.9

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

13 Years

WEIGHT

6.5 Pounds

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	--	207	0.58	1.28	0.51	55.6	89.2
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	1.2	1.1	1.2	NM	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

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Fletcher/Dr.
Verhalen

INVOICE

13690

DATE

10/12/21

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. 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 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. **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.

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



PATIENT	Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some mild increased echogenicity and 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 3.5 cm in length.
Pixie Duffy	
SPECIES	
Feline	Adrenal Glands
BREED	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.53 cm width at the caudal pole.
DSH	No overt pathology in the area of the right adrenal gland.
SEX	Spleen
Spayed Female	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
AGE	Liver
13 Years	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild 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 cystic and common bile ducts were normal.
WEIGHT	Gastrointestinal
6.5 Pounds	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.
INTERPRETED BY	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.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	Normal visible colon wall layers were present with apparent formed feces in lumen.
IMAGING PERFORMED BY	Pancreas
Jessica Miller	The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.
HOSPITAL NAME	Free Abdomen
Newton VH	No overt lymphadenopathy or peritoneal effusion was present.
REFERRING VET	ULTRASONOGRAPHIC FINDINGS
Dr. Fletcher/Dr. Verhalen	<ul style="list-style-type: none"> • Overtly normal cardiac structure and function • Sonographically unremarkable abdomen
INVOICE	INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS
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PATIENT

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SPECIES

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Overtly normal echocardiogram with no cause of the murmur overtly evident. In the absence of significant volume changes (i.e., hydration or anemia), potential for a physiologic/flow murmur present at elevated heart rates or small flow abnormality not seen here are possible. Regardless, the lack of left or right heart chamber enlargement, lack of systolic dysfunction and lack of evidence of clinical pulmonary hypertension indicate that the respiratory distress in this patient is non-cardiogenic in origin. Concurrently, the lack of left atrium enlargement is not consistent with thrombus formation. Primary lower airway disease such as SARDS, inflammatory/infectious airway disease or other may be possible.

No overt indication for cardiac medications- the only exception to this rule may include iatrogenic or stress induced decompensation if evidence of pleural effusion is present, however, no overt evidence of pericardial or pleural effusion was noted in the study. No evidence of abdominal pathology as potential cause of pulmonary metastatic disease.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Newton VH

REFERRING VET

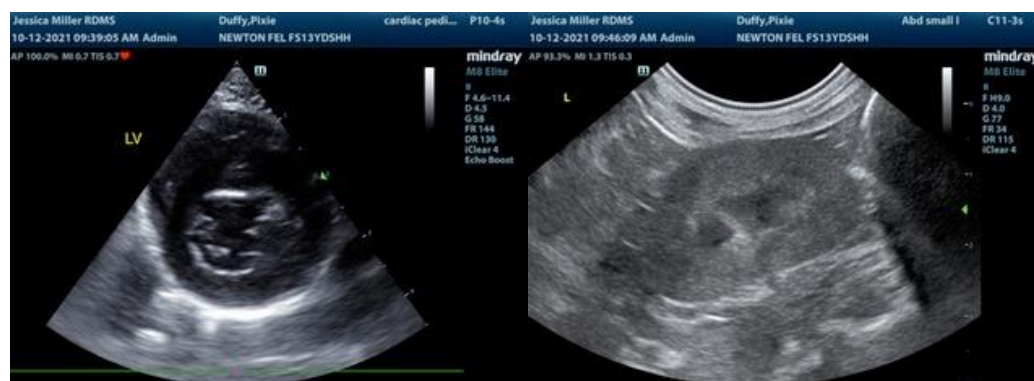
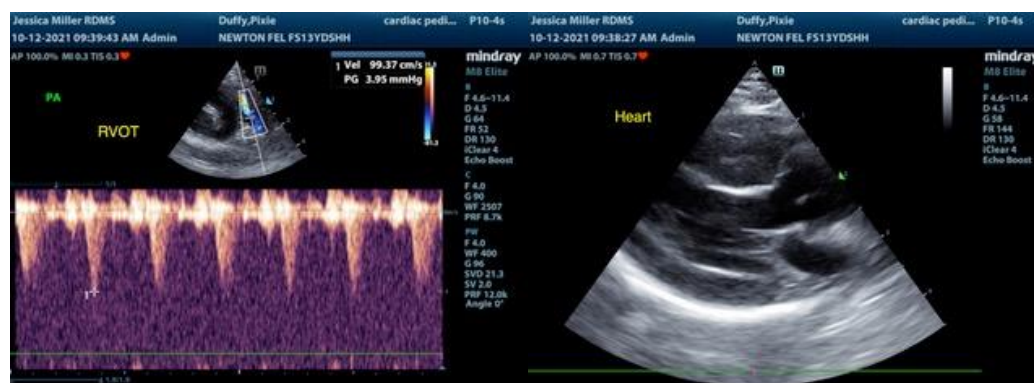
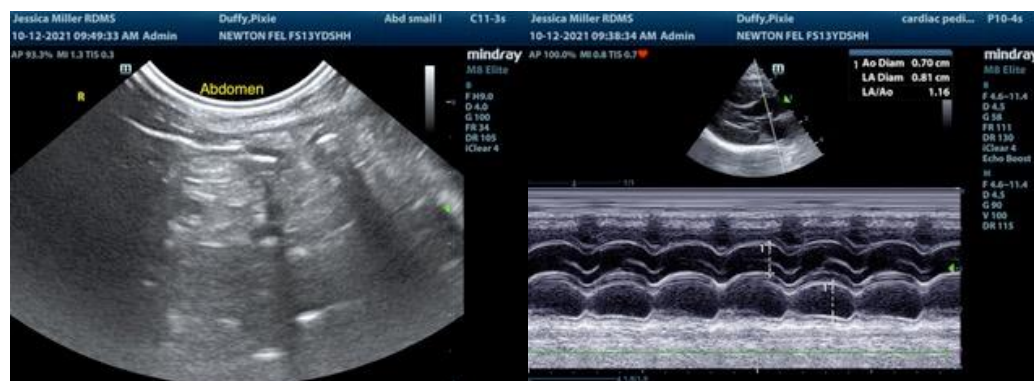
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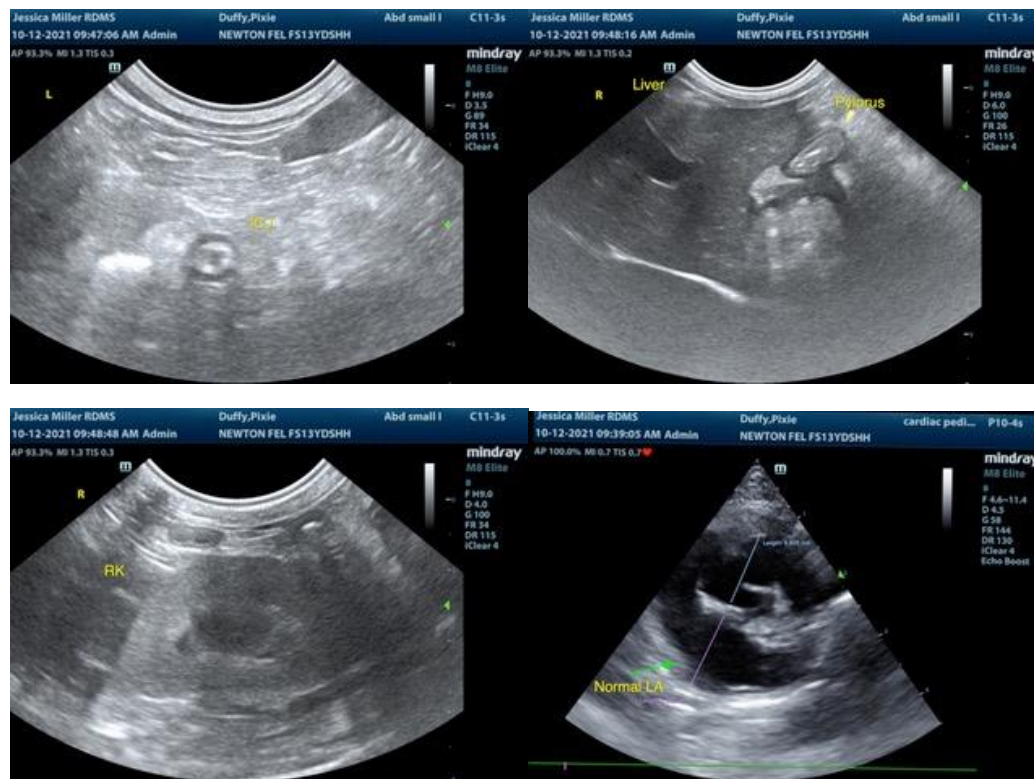
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
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