



PATIENT

Zoe Cocoran

SPECIES

Feline

BREED

DSH

SEX

FS

AGE

11 years

WEIGHT

11.8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Milburn VH

REFERRING VET

Dr. Turowsky

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12387

DATE

10/19/21

PRESENTING CLINICAL SIGNS

Diagnosed with diabetes in April 2021, recently decreased appetite and urinating outside little box, also developed pot belly appearance. Very PU/PD. Current meds: Lantus 1.5u

Abnormal PE/Chem/CBC/UA Results: Glucose 341, K 3.3, Cl 111, TP 6.0 UA: 3+ glucose, neg before. Urine culture no growth SG: 1.028

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		197	0.48	1.6	0.45	38.5	72.6
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		1.63	2.0	1.0	0.9	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 mildly enlarged **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricular** septum and free wall revealed normal thicknesses, adequate contractility and normal left ventricular volume, yet some echogenic remodeling of the septum and free wall were noted consistent with some level of **myocardial fibrosis**. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed mild increased size and normal content. No evidence of masses was noted or 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** free fluid was noted, although mild to potentially moderate free pleura fluid was present. The cranial **mediastinum and pericardial regions** were free of overt masses in the visible window.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or



PATIENT	sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.
Zoe Cocoran	
SPECIES	The area of the aortic trifurcation was free of pathology.
Feline	Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. Subjective mild decreased corticomedullary parenchyma echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient was present. No evidence of pelvic dilation was present. The left kidney measured 4.6 cm in length. The right kidney measured 4.3 cm in length.
BREED	
DSH	
SEX	Adrenal Glands
FS	Mildly expansive, hypoechoic to nonhomogeneous mass lesions were present in the area of both the left and right adrenal glands. Mass effect in the area of the left adrenal gland measured 5.8 cm x 2.8 cm. Mass effect in the area of the right adrenal gland measured 5.4 cm x 3.2 cm. This may potentially indicate left and right adrenal pathology or tumors, although the potential for regional periadrenal lymphadenopathy is possible.
AGE	
11 years	
WEIGHT	Spleen
11.8 lbs.	The spleen exhibited decreased parenchyma echogenicity. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.
INTERPRETED BY	Liver/ Gallbladder
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The liver exhibited overall mild generalized enlargement. The parenchyma of the liver was subjectively decreased in echogenicity with a moderate coarse echotexture, similar in echogenicity to the spleen. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.
IMAGING PERFORMED BY	
Jessica Miller	
HOSPITAL NAME	Gastrointestinal
Milburn VH	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.
REFERRING VET	
Dr. Turowsky	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.
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Pancreas

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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 were evident.

SPECIES

Feline

Free Abdomen

BREED

Mild peritoneal free fluid was present. Generalized mild increased omental echogenicity was noted.

DSH

ULTRASONOGRAPHIC FINDINGS

SEX

Primary Findings

FS

- Mild unclassified cardiomyopathy
- Mild left atrium enlargement
- Nonspecific mass lesions in the area of the left and right adrenal glands
- Mild hepatomegaly
- Mild peritoneal with concurrent mild to moderate pleural free fluid

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

INTERPRETED BY

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

The mass lesions present in the area of both the left and right adrenal glands are consistent with neoplastic criteria potentially deriving from the bilateral adrenal glands, although the potential for overlaying lymphadenopathy or omental mass lesions cannot be definitively excluded.

IMAGING PERFORMED BY

Jessica Miller

The biventricular effusion in this patient may potentially be multifactorial in origin owing to lymphatic obstruction with potential for some cardiogenic contribution. However, the degree of left atrium enlargement, as well as lack of significant systolic dysfunction or overt clinical pulmonary hypertension, likely indicate noncardiogenic biventricular effusion. Therefore, the potential for multicentric neoplasia is considered a strong possibility.

HOSPITAL NAME

Milburn VH

Further assessment may include effusion analysis, cytology, +/- C/S if clinically indicated +/- hepatic and adrenal / periadrenal mass lesion FNA assuming normal clotting status. However, a very guarded to likely unfavorable long-term prognosis is indicated.

REFERRING VET

Dr. Turowsky

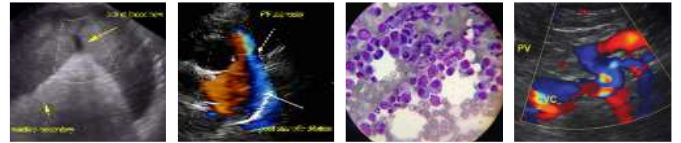
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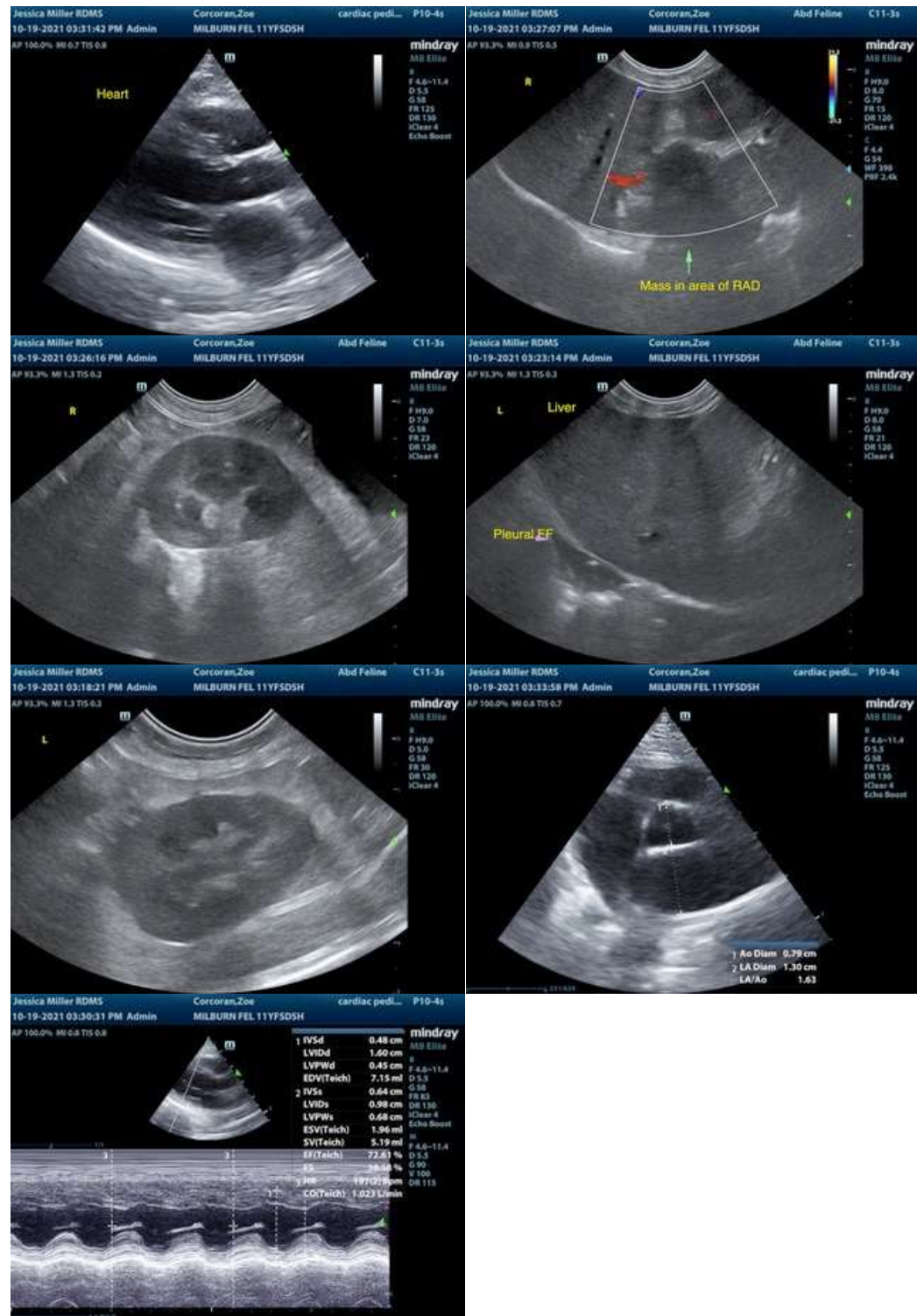
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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.

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info@SonoPath.com

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