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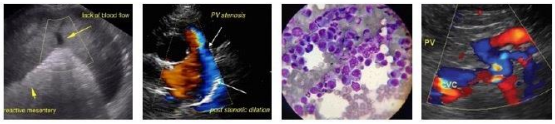


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Binks Campbell

SPECIES

Feline

BREED

DSH

SEX

FS

AGE

13 yrs

WEIGHT

10 lbs.

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Animal Hospital of Stoney Creek

REFERRING VET

Dr. Egbers

INVOICE

14711

DATE

8/25/22

PRESENTING CLINICAL SIGNS

Decreased appetite, intermittent vomiting once owner returned from vacation. PE unremarkable other than chronic cardiac right sided murmur which was previously diagnosed as Flow Murmur with Sonopath 9/17/18 and mild focal hypertrophy at base of IVS 2020. All bloodwork WNL. No meds.

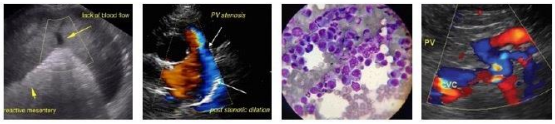
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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		192	0.39	1.51	0.38	56	91.2
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	1.31	1.3		1.0	1.1	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 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 was noted. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity with some evidence of mild LV myocardial remodeling, likely associated with age. No evidence of progressive basilar or septal hypertrophy was noted. **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



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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 to a depth of 2.0 cm 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 was noted.

The area of the aortic trifurcation was free of pathology.

Normal 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 increased echogenicity and mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Evidence of nonobstructive medullary mineral to potential medullary fibrosis Is noted. The left kidney exhibited potential for mild subnormal size compared to the right kidney measuring 3.2 cm in length. The right kidney measured 4.2 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.47 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.45 cm width.

Spleen

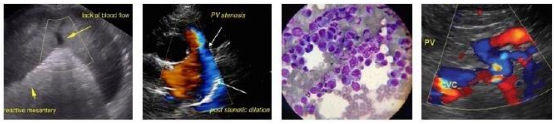
The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver/ Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to mild parenchymal remodeling. 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.

Gastrointestinal

The stomach exhibited intact and sonographically unremarkable wall layering. The stomach was primarily empty with nonspecific mildly hyperechoic to shadowing ingesta present in the area of the



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antrum and pylorus. No evidence of mechanical pyloric outflow obstruction or obstructive pyloric mural pathology was noted. The gastric body wall width measured 0.24 cm.

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. The duodenum wall measured 0.27 cm width. The jejunum wall measured 0.24 cm width. No overt pathology was noted in the area of the ileocolic junction.

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

Pancreas

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.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function for age with mild LV myocardial remodeling
- Normal left atrium
- Overtly normal gastrointestinal tract with mild nonspecific shadowing gastric antrum / pylorus ingesta
- Sonographically normal pancreas
- Bilateral chronic renal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of structural gastrointestinal pathology i.e., IBD or neoplastic gastrointestinal criteria was evident. The shadowing gastric ingesta is nonspecific. Potential for hairball density is possible if clinical history of hairballs. Structurally insignificant gastrointestinal disease i.e., IBD or low-grade pancreatitis, both of which may present as sonographically normal cannot be definitively excluded. Dietary intolerance / food hypersensitivity, or occult parasitism if the patient is Indoor/outdoor, may be considered as alternative differentials.

Sonographic monitoring for evidence of persistent shadowing pyloric ingesta +/- hairball therapy if clinically indicated could be considered. As-needed gastrointestinal support with potential for hydrolyzed diet trial and prophylactic deworming may prove beneficial.

Static chronic benign flow murmur is likely without evidence of clinical issues such as left or right heart chamber enlargement, or LV systolic dysfunction. No indication for cardiac medications is evident. Continued conservative monitoring of the chronic heart murmur is recommended.

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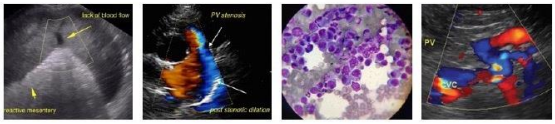

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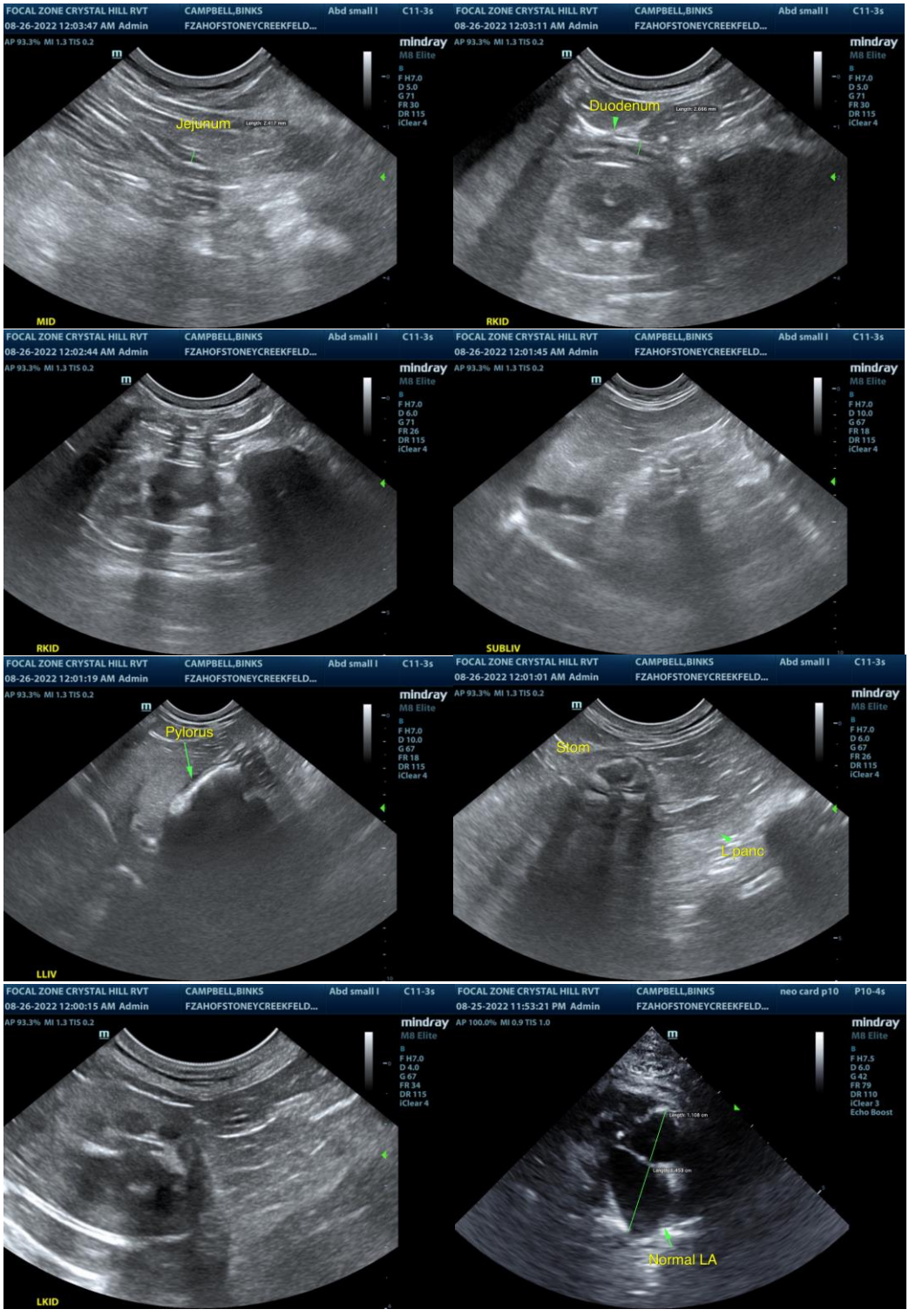

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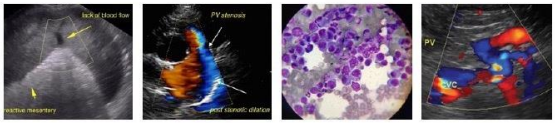

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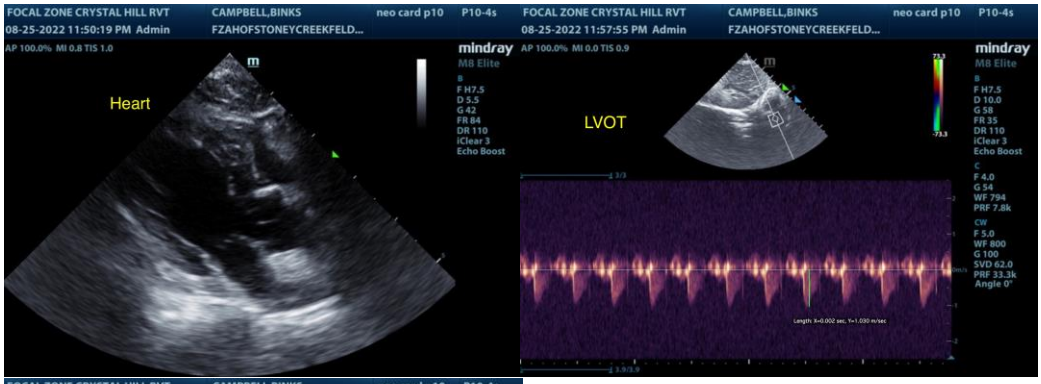

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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