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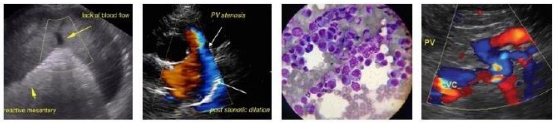


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Levi Dwyer

SPECIES

Canine

BREED

CKCS

SEX

MN

AGE

7 yrs

WEIGHT

19.3 kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING PERFORMED BY

Kelly Reschny

HOSPITAL NAME

Preston AC

REFERRING VET

Dr. MacDonald

INVOICE

14712

DATE

8/25/22

PRESENTING CLINICAL SIGNS

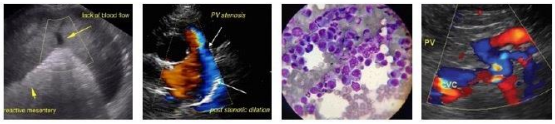
abdominal pain meds: gabapentin, low fat diet

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.8	2.8 MAX		1.25	43	75.4	0.14
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**LA** 2D short axis Base view (cm)	**LVIDd** Avg; 2D and m-mode short axis (cm)	**LVIDs** Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	160	1.8	1.1		3.3	3.3	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler revealed eccentric mitral valve insufficiency. The **left ventricle** presented 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 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 concurrent mild thickening with mild TR on doppler. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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Urinary System

The urinary bladder, trigone, and cystourethral junction 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 size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 6.2 cm in length. The right kidney measured 5.5 cm in length.

Adrenal Glands

A non-expansive, well-demarcated, uniform hyperechoic, nonmineralized nodule was present in the left adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 0.82 cm x 0.75 cm. The overall left adrenal gland measured 2.3 cm length x 0.76 cm width at the caudal pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.3 cm length x 0.41 cm width at the caudal pole.

Spleen

The spleen was normal in size and contour with primarily finely textured homogeneous parenchyma. A solitary discrete nondisruptive hypoechoic nodule was present in the medial spleen, measuring 0.45 cm in diameter.

Liver/ Gallbladder

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.

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.

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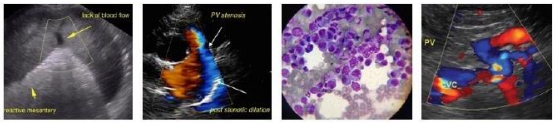

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Pancreas

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

- Chronic mitral valve disease (ACVIM B1)
- Nonspecific left adrenal nodule - suspect adenoma
- Nonspecific yet likely benign discrete splenic nodule - multiple etiologies possible Including suspected focal hyperplasia, hematopoiesis, small hematoma, focal splenitis, or similar, neoplastic criteria considered unlikely

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Prognosis at this stage Is highly variable and serial sonographic monitoring is required for further assessment. Conservative monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop.

Overall, no obvious pathology was noted in the abdominal cavity as a definitive cause of the patient's reported abdominal pain.

Sonographic monitoring of both the left adrenal nodule and splenic nodule for evidence of progression with an initial recheck ideally in 4-6 weeks Is suggested. Assessment of systemic BP to rule out evidence of hypertension, which may allude to an emerging left pheochromocytoma is recommended. If not done, a thorough muscular/skeletal examination is suggested to assess for evidence of potential referred abdominal pain.

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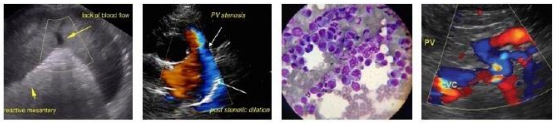

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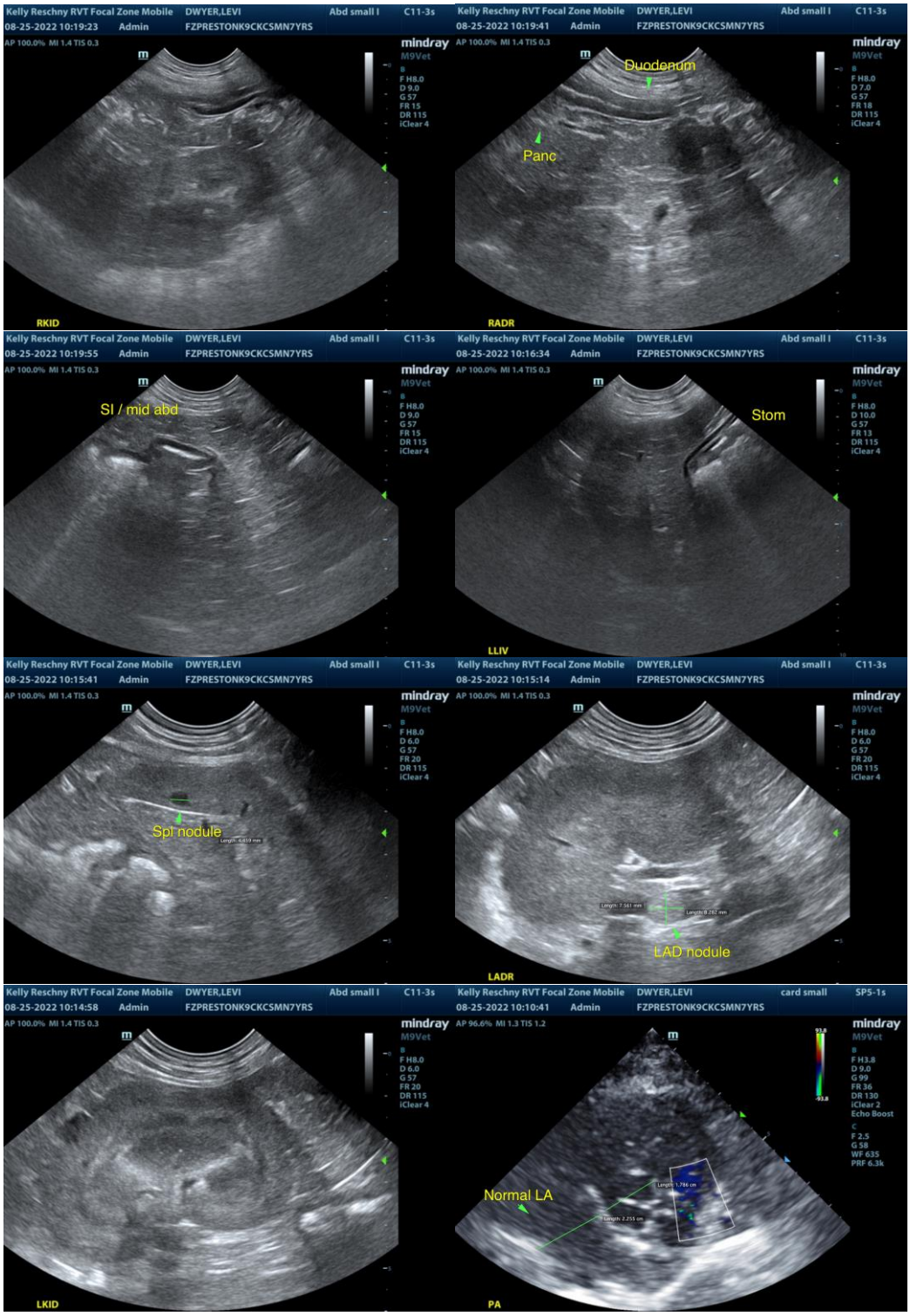

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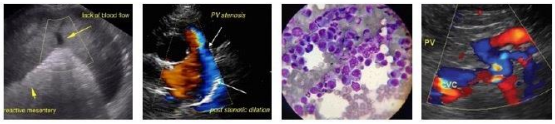

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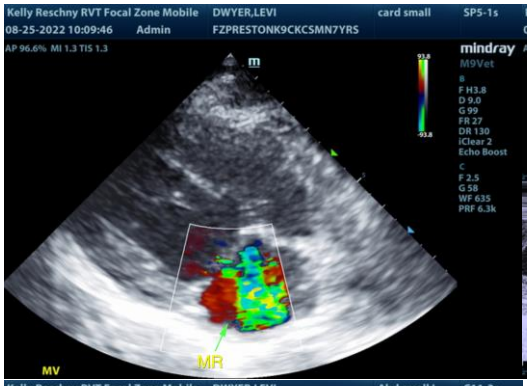

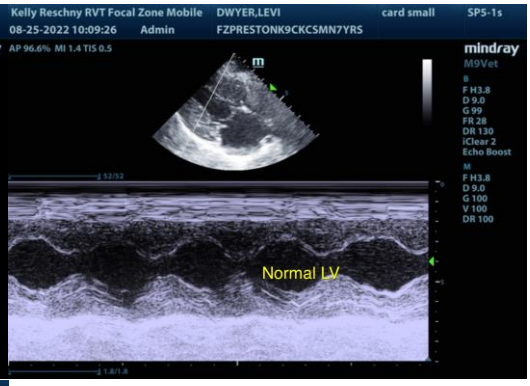

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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