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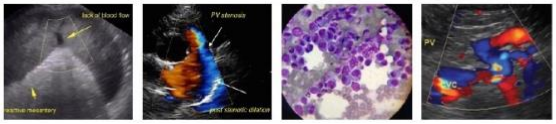


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Zoe Harris

SPECIES

Canine

BREED

Yorkie

SEX

Spayed Female

AGE

9 Years

WEIGHT

5.7 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Hamilton Region EC

REFERRING VET

Dr. Grewal

INVOICE

17688

DATE

10/14/22

PRESENTING CLINICAL SIGNS

History: Assessment: Azotemia Kidneys values elevated Phospurus binders. Looking for cause of vomiting and diarrhea and anorexia.

Abnormal PE/Chem/CBC/UA Results: RBC 5.18 5.65 - 8.87 x10^12/L MCH 26.1 21.2 - 25.9 pg PDW 8.5 9.1 - 19.4 fL L * 8.7 MPV 8.5 8.7 - 13.2 fL Creatinine 333 44 - 159 µmol/L H 153 123 Urea (BUN) >46.4 2.5 - 9.6 mmol/L H 28.6 17.4 Phosphorus 4.20 0.81 - 2.20 mmol/L Chloride 125 109 - 122 mmol/L

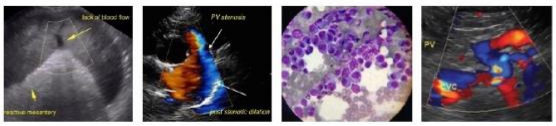
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	--	--	NM	1.45	43	76.2	0.2
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	87	1.6	1.1	--	2.4	2.26	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

Urinary System



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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 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 were noted. Aortic trifurcation was normal.

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 increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pyelectasia was present. The left kidney measured 4.3 cm in length. The right kidney measured 5.0 cm in length.

Adrenal Glands

The bilateral adrenal glands were mildly prominent in size based on caudal pole width measurement in light of patient body size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 2.1 cm in length x 0.81 cm width in the caudal pole. The right adrenal gland measured 1.7 cm in length x 0.7 cm width in the caudal pole.

Spleen

The spleen was normal in size and contour with primarily maintained finely textured homogeneous parenchyma. A solitary nondisruptive nonhomogeneous to hyperechoic splenic nodule was noted, measuring 1.1 cm in diameter. The nodule is likely consistent with benign myelolipoma.

Liver

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 wall thickening secondary to echogenic mucosa hypertrophy. Intact yet mildly prominent gastric wall layering was noted. The gastric body wall measured 0.40 cm width. The stomach was empty without evidence of gastric distention secondary to retained ingesta, fluid or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. Mild segmental to generalized duodenojejunal mucosal speckling. No evidence of small intestinal mechanical/metabolic ileus with mild segmental intestinal chyme and luminal gas. The duodenum wall measured 0.45 cm. The jejunum wall measured 0.43 cm.

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

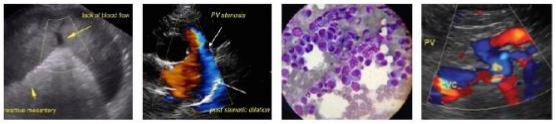
Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS



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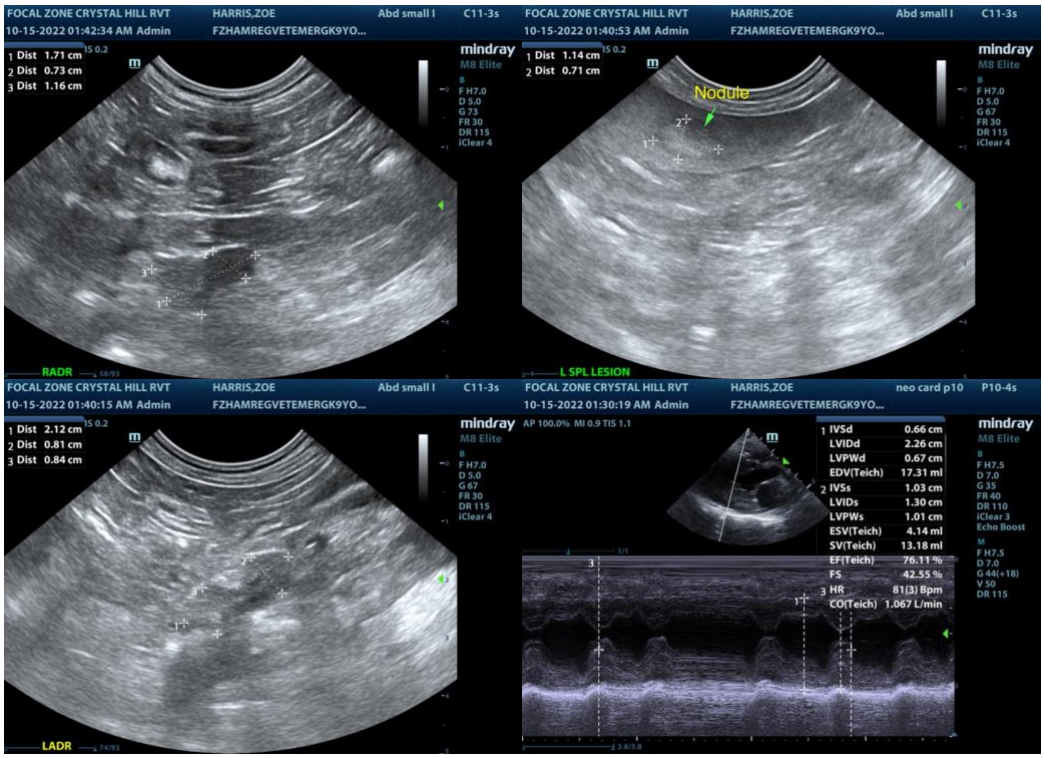
- Normal echocardiogram
- Gastroenteritis pattern – possible mild uremic gastritis
- Mild heterogeneous pancreas-suspect mild benign remodeling, which may be a patient variant or potentially secondary to previous inflammatory episode. Potential for low grade or chronic pancreatitis is possible.
- Bilateral nonspecific chronic renal changes/chronic nephropathy
- Subjective benign splenic nodule

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Potential for low grade to chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation, correlation with spec CPL could be considered. Subjectively the kidneys did not appear to be end stage, yet renal prognosis is likely dependent upon response to diuresis protocol and renal support. No evidence of intraabdominal neoplastic criteria.



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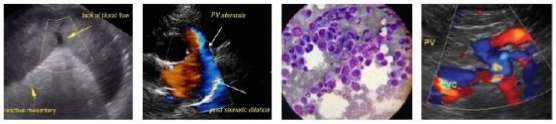

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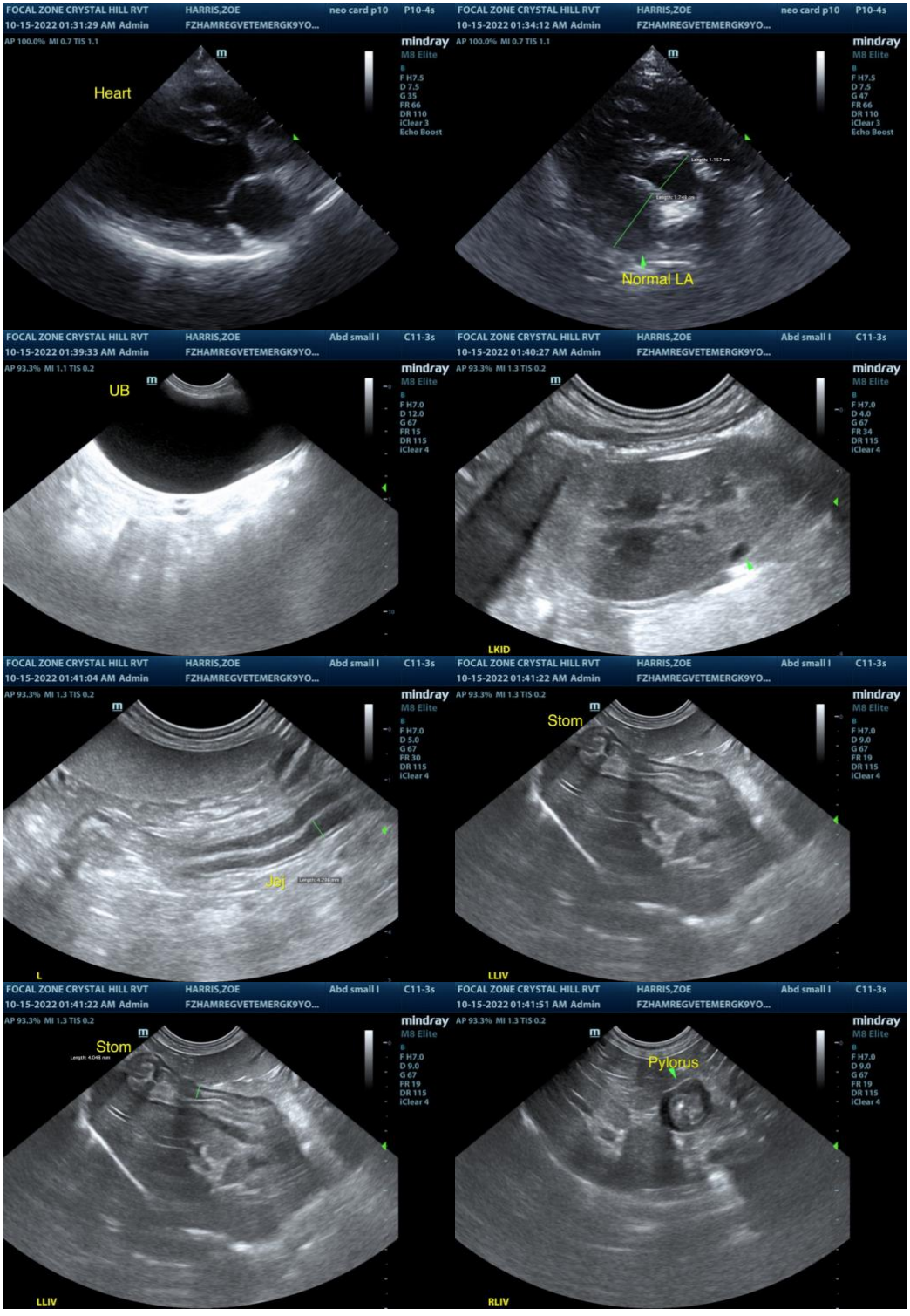

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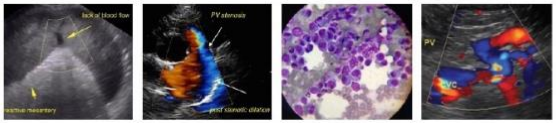

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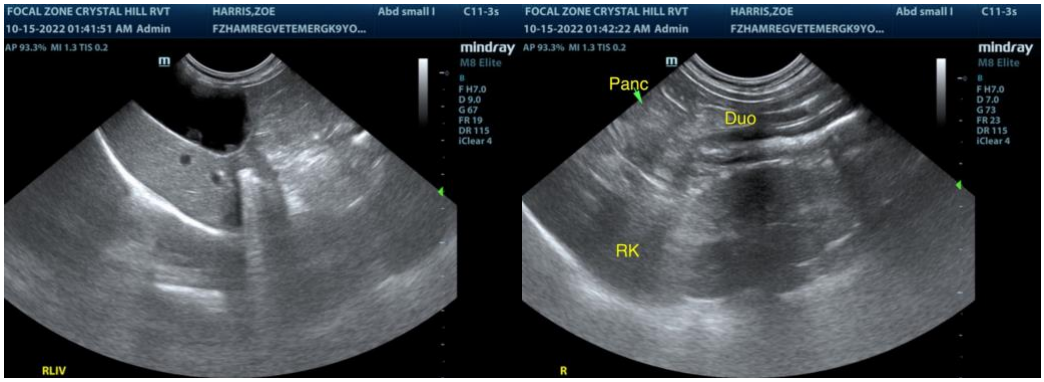

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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