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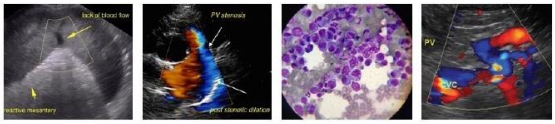


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Jackson Dodds

SPECIES

Canine

BREED

Pekenese

SEX

MN

AGE

9 years

WEIGHT

8.3 kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING PERFORMED BY

Crystakl Hill

HOSPITAL NAME

West Park AH

REFERRING VET

Dr. Rice

INVOICE

14316

DATE

7/20/22

PRESENTING CLINICAL SIGNS

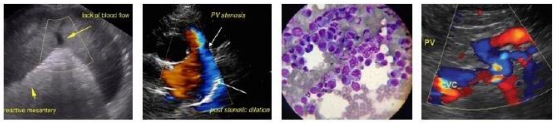
Pale, dyspneic, BCS 5/6, lethargic. Started on Azathioprine/prednisone/clavamox and rechecked bloodwork 1 week later. Please see below.
Abnormal PE/Chem/CBC/UA Results: Please see attached rads Blood - icteric, low RBCs, Low HCT, High WBCs, High MCV and MCH, elevated BUN, ALT, ALP, Glucose, high total Bilirubin, low K, serum agglutination positive, Coombs test negative. Returned 1 week later eating and drinking better but still having lots of trouble breathing. Next blood sample not icteric and no hemolysis and showed still very elevated WBCs

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		1.5		1.4	35	67	0.24
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	117	1.8	1.4		2.8	2.4	

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 mild vegetative thickening suggestive of endocardiosis without evidence of valvular prolapse or chordae tendinea rupture. Doppler indicated mild to moderate eccentric 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 adequate linear morphology. Minor TR likely 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** free fluid was noted. Mild to possible



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moderate volume free pleural fluid was noted. No evidence of cardiac or pericardial tumors was evident. The area of the cranial thorax and mediastinum was Indistinctly visualized owing to increased pulmonary artifact without overt evidence of cranial mediastinal masses in the visible window.

Urinary System

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 was noted.

No overt pathology was noted in the area of the residual prostate.

The area of the iliac trifurcation was free of pathology including no evidence of medial iliac or sublumbar lymphadenopathy / masses.

Normal size and margination were 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 minor loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.2 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 0.41 cm width at the caudal pole and 0.31 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.36 cm width at the caudal pole and 0.36 cm width at the cranial pole. No evidence of adrenal neoplastic criteria or enlargement was noted.

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 presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. 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 hepatic vascular congestion. The cranial abdominal caudal vena cava was overtly normal In size and volume without evidence of thrombosis at the level of the liver and diaphragm. The gallbladder was non distended in size with mild congealed yet nonorganized, mildly hyperechogenic, debris. The gallbladder was otherwise normal with no evidence of peripheral gallbladder inflammation. The cystic duct and common bile ducts were normal without evidence of dilation.

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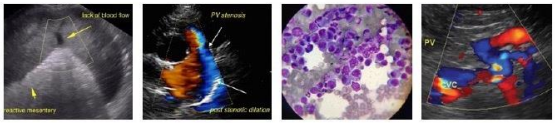

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Gastrointestinal

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.

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 omental masses, lymphadenopathy or peritoneal effusion was present.

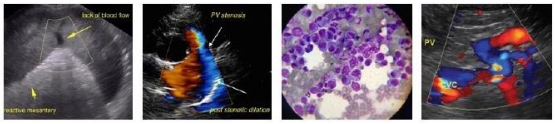
ULTRASONOGRAPHIC FINDINGS

- Non-congested hepatopathy - metabolic, reactive, vacuolar, inflammatory hepatopathy, nonobstructive cholestasis, or other hepatopathy possible, no overt evidence of neoplastic criteria
- Mild gallbladder debris (non-mucocele)
- Early to minor age-related kidneys
- Sonographically unremarkable spleen - no evidence of splenic neoplastic criteria
- Compensated mitral valve insufficiency (ACVIM B1)
- Minor TR - estimated pulmonary pressure gradient based on measured TR velocity (<20 mmHg) not overtly consistent with clinical pulmonary hypertension
- Mild to moderate volume pleural effusion

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The mild to moderate volume pleural effusion appears to be noncardiogenic In this case without evidence of left or right heart chamber enlargement, LV systolic dysfunction, or evidence of overt clinical pulmonary hypertension. Infectious, inflammatory, or neoplastic etiologies for the pleural effusion with potential for concurrent primary lower airway disease, given the patient's dyspnea, is possible. Ideally, thoracocentesis for collection of pleural effusion for analysis, cytology +/- C/S if evidence of inflammatory cells for further assessment Is suggested. No overt evidence of primary intraabdominal neoplastic criteria as a contributing factor to the hemolysis or possible thoracic metastatic disease.

If normal clotting status and clinically indicated, screening hepatic FNA using a 25-gauge needle could be considered primarily to ensure only benign changes are present, potential identification of inflammatory cells if present, and rule out the less likely potential for occult hepatic neoplasia.



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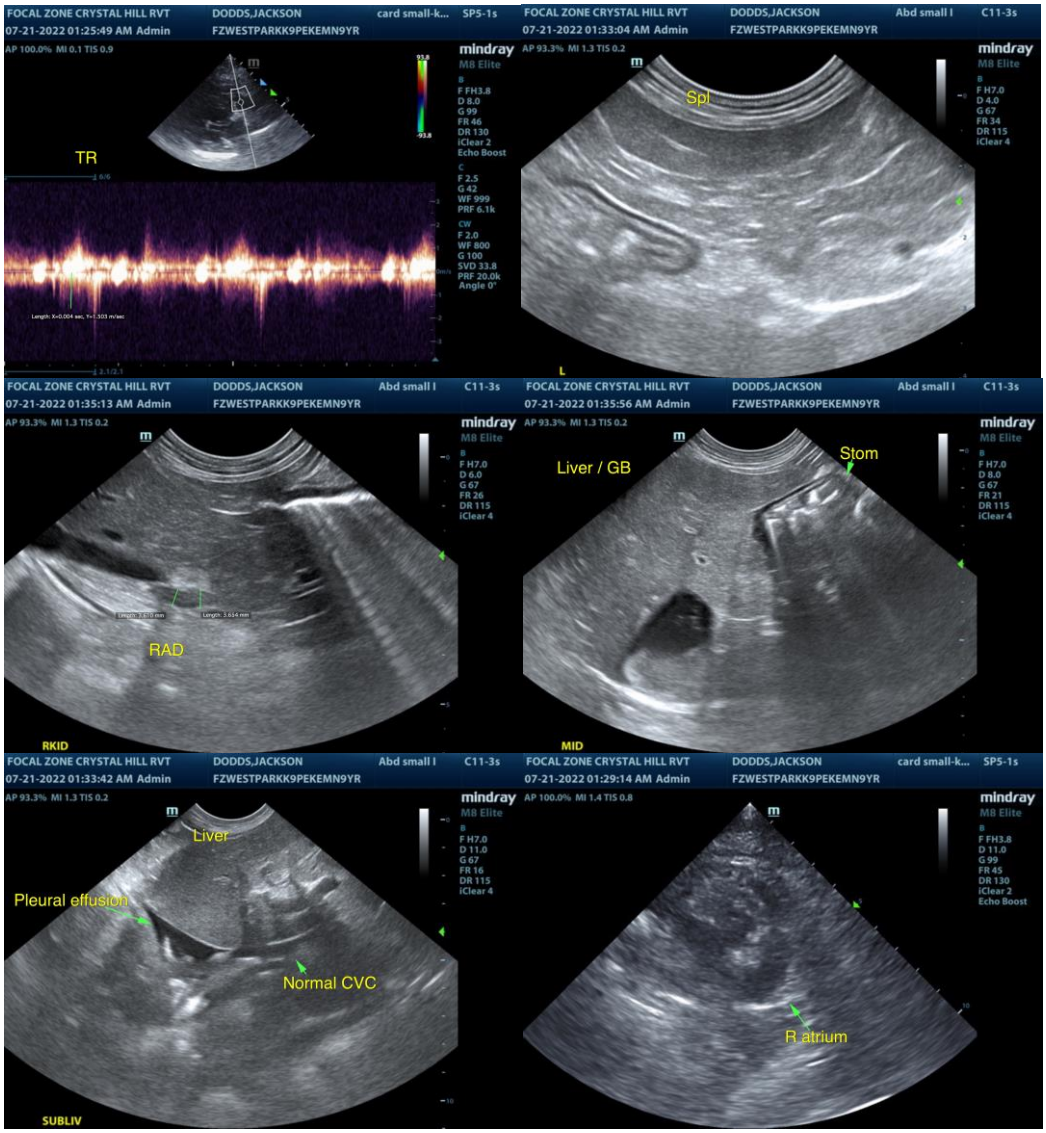
Empirically and pending additional diagnostics, as-needed respiratory support, as well as continued therapy for potential immune-mediated hemolytic anemia with continued monitoring of CBC +/- CBC Pathology review, would be reasonable.

If the patient can be stabilized, thoracic CT is likely Ideal in this patient.



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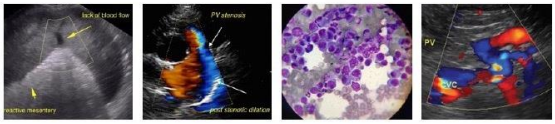

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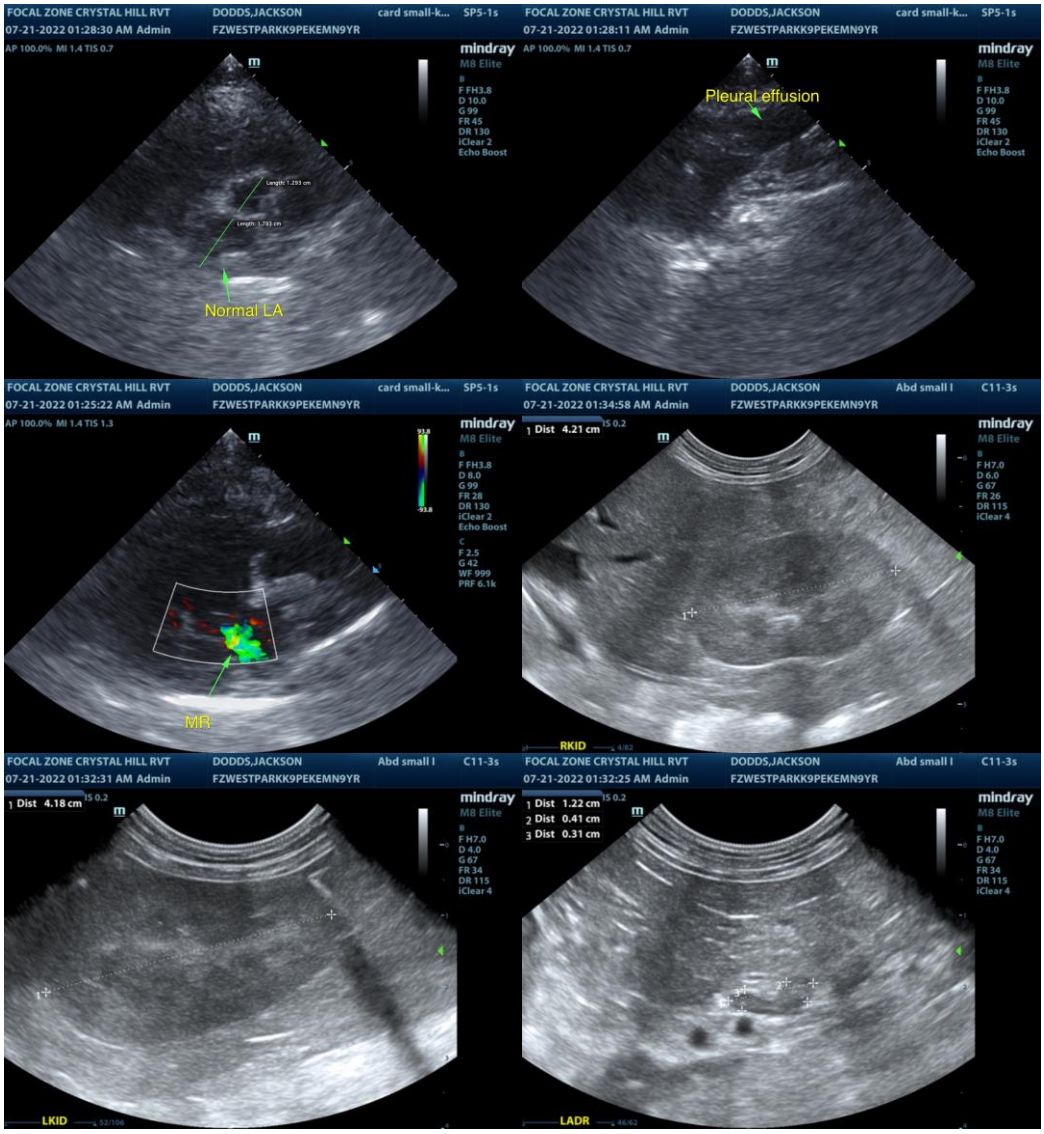

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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