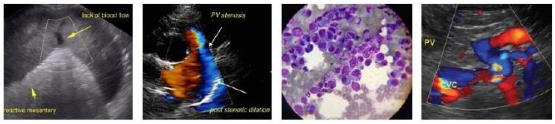

PATIENT

Bowser Dunlop

SPECIES

Canine

BREED

Bouvier

SEX

MN

AGE

7 years

WEIGHT

92.4 lbs.

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Tansley Woods Vet Hospital

REFERRING VET

Dr. Petrowski

INVOICE
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PRESENTING CLINICAL SIGNS

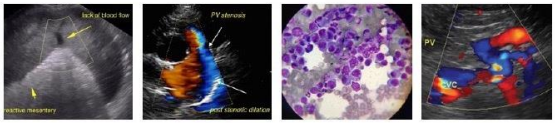
Febrile temp - 40.1 C Heart murmur since purchase, was diagnosed as a pup with Ventricular Septal Defect. Has grade 4/6 holosystolic heart murmur. Concerns re: tumor? Worsening heart disease as cause for lethargy. Still eating and drinking canned food. No vomiting or diarrhea. No known FB. Metacam, Fortiflora, Baytril, Cerenia and Famotidine. Started Clavaseptin also after scan. No coughing, hacking or changes in resp. Has eaten today.
Abnormal PE/Chem/CBC/UA Results: No rads. Bloodwork CBC and full chemistry all within normal limits as of April 28, 2022. Other than mild increase in Cholesterol and slight elevation in WBC count.

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				1.35	21	47.5	0.42
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	123	1.3	1.5		4.5	4.3	

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. 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 mildly subnormal as 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. 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** free fluid was noted. Potential for very



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scant pleural free fluid is possible. No overt evidence of cardiac, pericardial, or mediastinal masses in the visible window.

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.

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

Sonographic assessment in the caudal abdomen in the area of the iliac trifurcation revealed subjective mild hyperechoic omentum and very scant associated free fluid. No evidence of medial iliac or sublumbar lymphadenopathy was noted.

Normal size and margination were present in the left kidney. 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 7.3 cm in length.

The right was indistinctly visualized owing to patient size and conformation, yet without overt evidence of pathology, subjectively measuring 6.7 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 3.0 cm length x 0.88 cm width at the caudal pole. The right adrenal gland was not definitively visualized owing to patient size and conformation.

Spleen

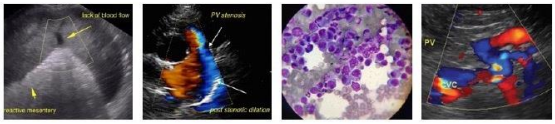
The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute 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 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 contained moderate nonshadowing ingesta most consistent with reported post prandial presentation without signs of ileus, obstruction or foreign material.



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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, omental lymphadenopathy or other omental pathology was visualized.

ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram with LV hypocontractility
- Nonspecific mild caudal abdominal / peri iliac subjective reactive mesentery with scant peritoneal free fluid, no evidence of associated lymphadenopathy or obvious peritonitis
- Possible scant pleural free fluid

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Aside from LV hypocontractility, no overt evidence of significant structural cardiomyopathy. The LV hypocontractility is nonspecific with considerations including hypocontractility secondary to systemic or metabolic disease or athletic state which can present in this manner. DCM criteria was not met. The possibility of previously diagnosed VSD cannot be excluded, yet evidence of a significant shunt with secondary left or right heart chamber enlargement was not present. No obvious evidence of endocarditis, as evidenced by the normal measured LVOT velocity and objectively normal mitral valve.

Without evidence of significant cardiomyopathy and assuming normal albumin levels, an obvious etiology for the scant caudal peritoneal and possible pleural free fluid was unclear. This finding could potentially indicate nonspecific inflammatory process.

Three view chest radiographs are recommended for further assessment of the thorax. Empirically, as-needed supportive care along with broad-spectrum antibiotics, monitoring of fever, and assessment of clinical response with potential recheck sonogram if persistent clinical signs or If evidence of persistent thoracic or peritoneal cavity effusion are noted, is warranted.

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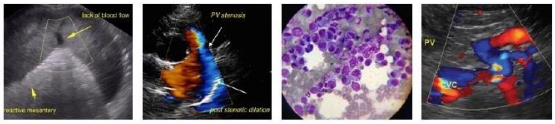

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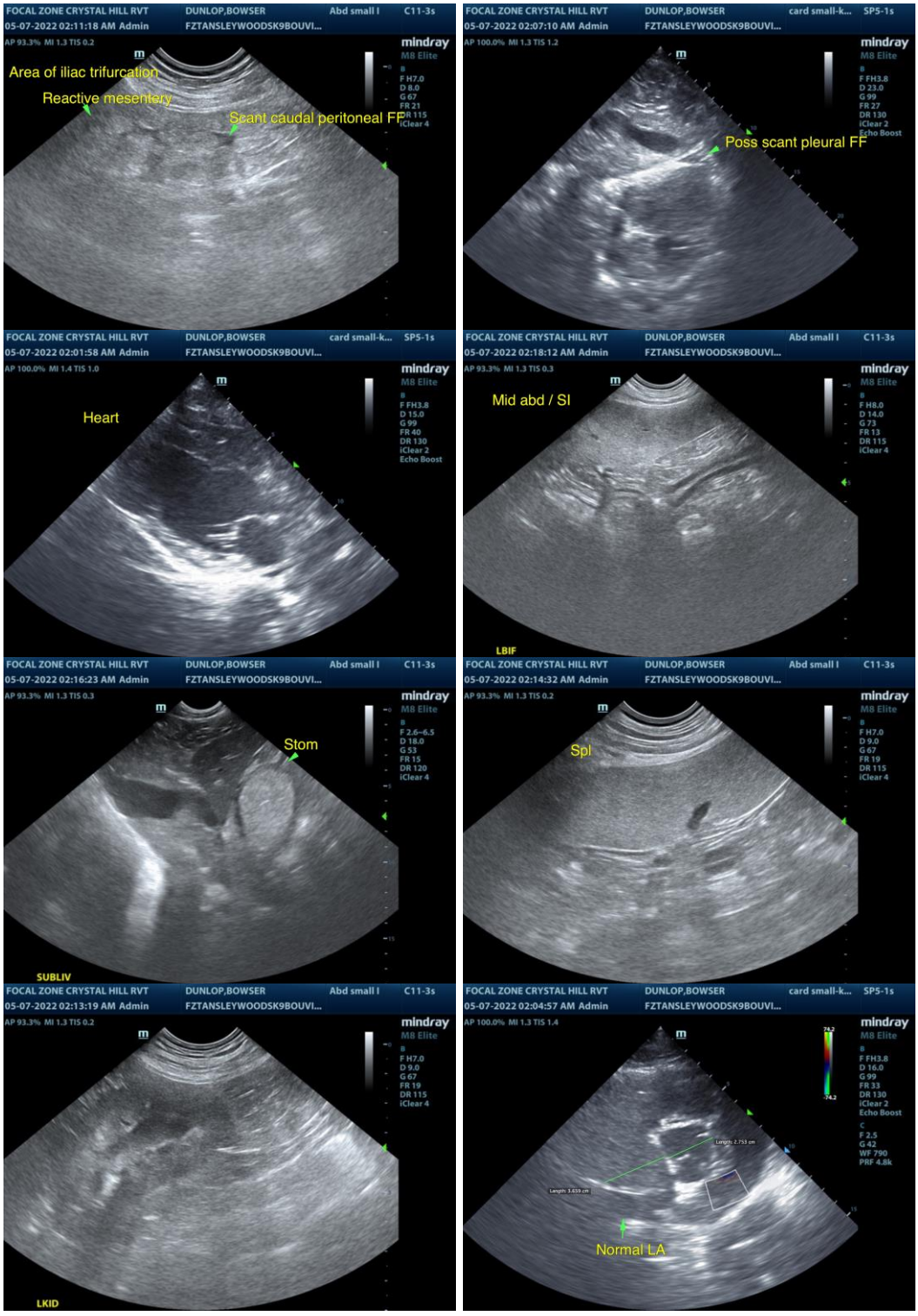

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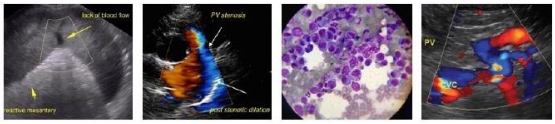

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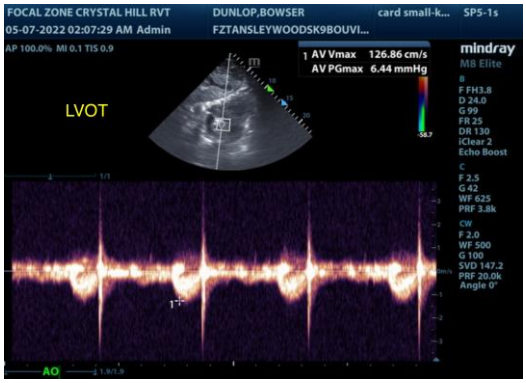

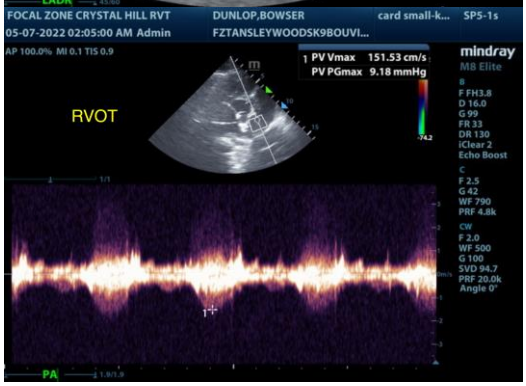

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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