



PATIENT

Scooby Hayes

SPECIES

Canine

BREED

Puggle

SEX

Neutered Male

AGE

10 Years

WEIGHT

28.2 Pounds

PRESENTING CLINICAL SIGNS

History: Mild elevated ALT and Abdominal Pain Current Medications gabapentin, buprenex, apoquel
Abnormal PE/Chem/CBC/UA Results: ALT - 161 (1-120) TP - 7.8 (5.5-7.6) Glucose - 138 (75-125)

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	--	--	1.0	1.0	38	71	0.21
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	146	1.7	0.86	--	2.4	2.3	--

INTERPRETED BY

McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

Weat Salem AC

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Dr. Crane

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4/20/23

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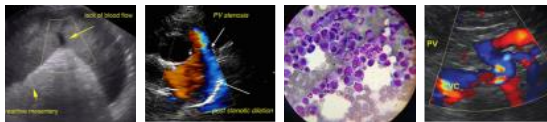
Cardiac Presentation

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 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. 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). Mild volume echogenic pleural effusion was present. No overt evidence of concurrent free pleural fluid. Ill-defined nonhomogenous mass was noted (which did not appear to correlate with the cranial liver) in the caudal thorax, potentially measuring 6-7 cm in diameter.

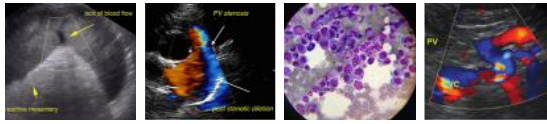
Urinary System



PATIENT	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.
Scooby Hayes	
SPECIES	The residual prostate was free of pathology.
Canine	Aortic trifurcation was normal.
BREED	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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.8 cm in length. The right kidney measured 5.5 cm in length.
Puggle	
SEX	Adrenal Glands
Neutered Male	The left adrenal gland was indistinctly visualized yet overtly normal in size, position and shape. The left adrenal gland measured 1.8 cm in length x 0.43 cm.
AGE	Enlarged, irregular nonhomogenous right adrenal gland was noted, measuring 2.8 cm length x 1.9 cm width at the cranial pole and 1.3 cm width at the cranial pole.
10 Years	
WEIGHT	Spleen
28.2 Pounds	The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Primarily small, nondisruptive, well-demarcated hyperechoic nodules were present primarily in the medical splenic parenchyma, consistent with benign myelolipomas. 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 or neoplastic changes were not noted.
INTERPRETED BY	Liver
McKenzie Daniel, DVM, DABVP (Canine and Feline)	The liver was mildly enlarged. 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 congestion.
IMAGING PERFORMED BY	Transdiaphragmatic view revealed comet tail lung pattern, which is echogenic sound wave interface with microconsolidations within the caudal lung field. The lung field should not be visualized by sonogram unless pathology is present. Chest radiographs are recommended to rule out alveolar/lung disease such as neoplasia, thromboembolic disease, chronic inflammatory disease with microconsolidation.
Jenna Walsh, CVT	
HOSPITAL NAME	Gastrointestinal
Weat Salem AC	The gallbladder was distended in size, containing anechoic content with concurrent nondependent organized to striated hyperechoic debris occupying the majority of the lumen. No overt evidence of peripheral inflammation. The cystic and common bile ducts were normal.
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PATIENT	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.
Scooby Hayes	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.
SPECIES	Normal visible colon wall layers were present with apparent formed feces in lumen.
Canine	Pancreas
BREED	The pancreas was mildly prominent in the pancreas base and right pancreatic limb with mild nonuniform hyperechoic parenchyma. No evidence of peripancreatic inflammation. These changes may suggest chronic inflammation, fibrosis, or saponification if previous history of pancreatitis. No overt signs of pancreatic neoplasia.
Puggle	Free Abdomen
SEX	No omental masses, lymphadenopathy or evidence of peritoneal effusion was present.
Neutered Male	ULTRASONOGRAPHIC FINDINGS
AGE	Primary Findings
10 Years	<ul style="list-style-type: none"> • Normal echocardiogram • Ill-defined mass/lesion in the subjective caudal thorax • Mild volume echogenic pleural effusion • Low grade hepatopathy- subjectively benign • Transdiaphragmatic comet tail artifact • Gallbladder mucocele • Right adrenal mass- concern for neoplasia (i.e., pheochromocytoma, carcinoma or other) is possible. Benign adenomatous change or hyperplasia is also possible. • Mildly prominent, nonhomogenous, hyperechoic right pancreatic limb- patient variant, benign remodeling owing to previous inflammation and chronic pancreatitis are all possible.
WEIGHT	Secondary Findings
28.2 Pounds	<ul style="list-style-type: none"> • Benign splenic nodules- consistent with benign myelolipomas
INTERPRETED BY	INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS
McKenzie Daniel, DVM, DABVP (Canine and Feline)	Screening blood pressure is suggested to assess for evidence of hypertension, which may allude to a right pheochromocytoma. The gallbladder mucocele, although concerning, does not appear to be an overt clinical player at this stage, given that only mild ALT elevation, without concurrent evidence of overt cholestasis. The normal cardiac presentation indicates that the pleural effusion is noncardiogenic. Assuming normal clotting status, FNA cytology of the ill defined caudal thoracic mass/lesion, as well as pleural effusion analysis cytology, +/- culture and sensitivity, if evidence of
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inflammatory cells, is suggested for further clarification. Given the bicavitory pathology in this patient, thoracoabdominal CT is likely ideal, if possible. Extremely guarded prognosis.

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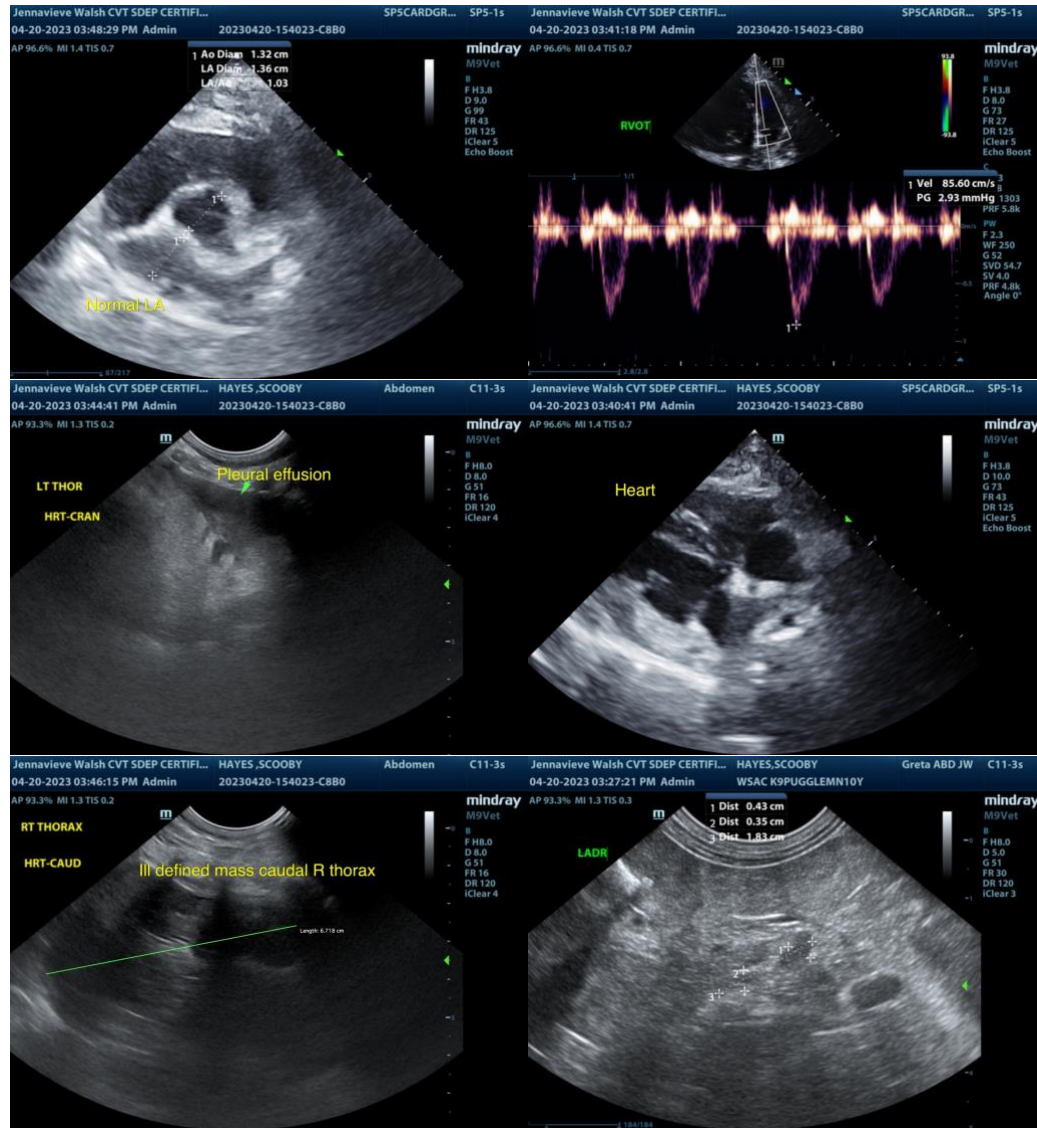
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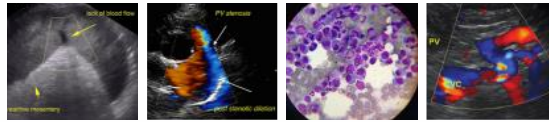
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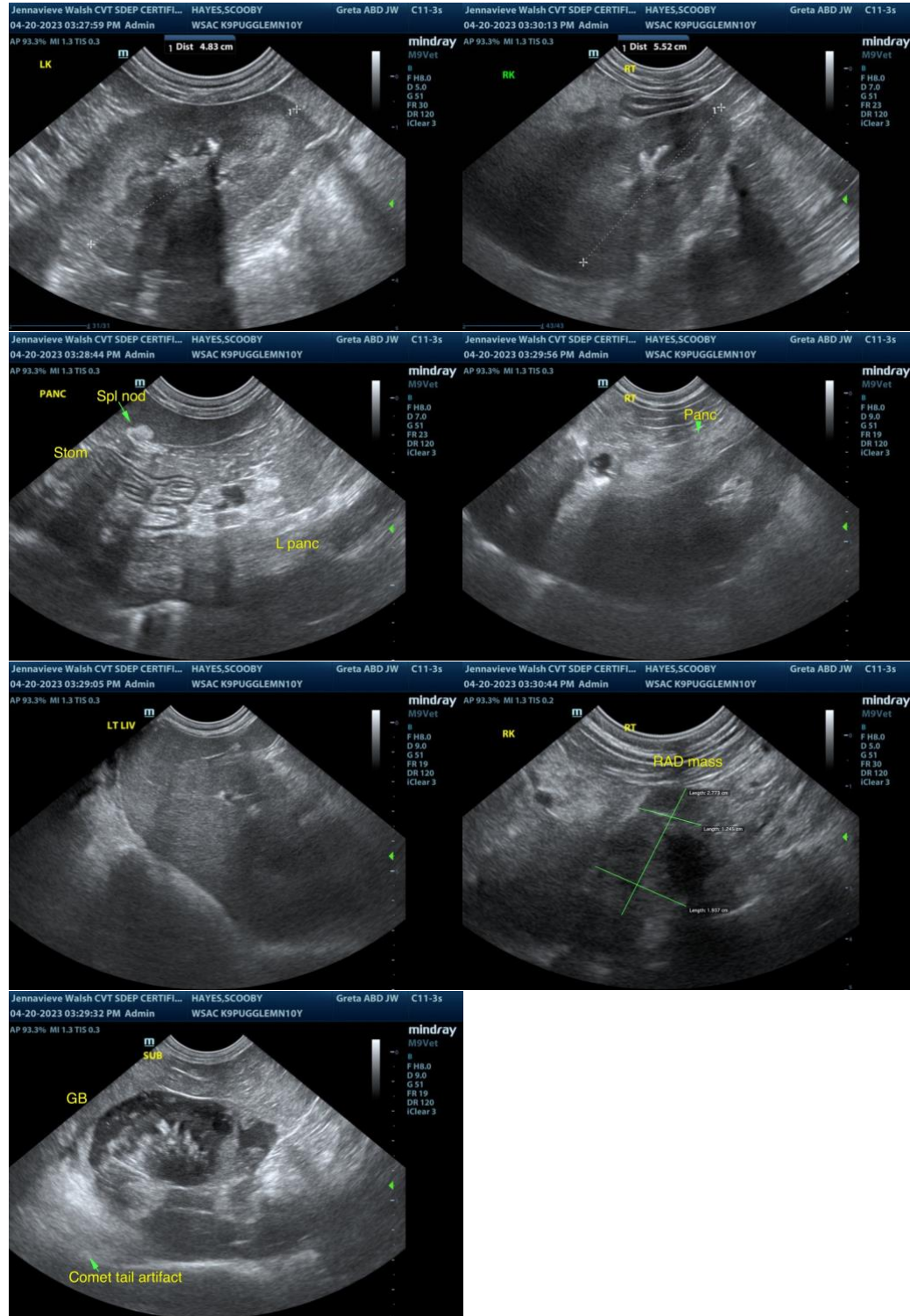
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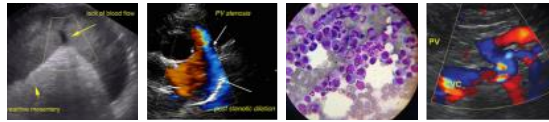
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not



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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.

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R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com

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