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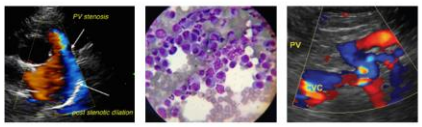

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1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Scooby Whitten

SPECIES

Canine

BREED

Pointer

SEX

NM

AGE

13 years

WEIGHT

63 pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Sarah Pender CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Jill Rigg

INVOICE

10542ag

DATE

05/06/2022

PRESENTING CLINICAL SIGNS

History: lethargic, inappropriate urination, decreased apatite Fasted for at least 12 hours

Abnormal PE/Chem/CBC/UA Results: hypothyroidism, increased kidney values

ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND ABDOMEN

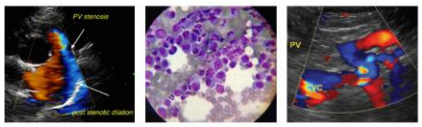
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT		3.0		1.2	41.4	73.9	0.3
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	126	1.4	1.0		4.2	3.1	

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 mild vegetative thickening consistent with probable mild endocardiosis. Doppler revealed mild eccentric insufficiency. The left ventricular septum and free wall revealed adequate contractility and normal left ventricular volume, yet some echogenic remodeling of the septum and free wall were noted. This does not appear to be a functional issue at this point. This is most consistent with some level of myocardial fibrosis, which is an age-related change. 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 mild subjective thickening with mild TR on Doppler. 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. No evidence of arrhythmia was noted.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 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.



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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 pelvic dilation was present. The left kidney measured 6.0 cm in length. The right kidney measured 6.4 cm in length.

The area of the aortic trifurcation was free of pathology.

The residual prostate was of expected presentation without pathology measuring 0.95 cm in width.

Adrenal Glands

Both adrenal glands exhibited moderate generalized enlargement with nonhomogeneous nonmineralized parenchyma and parenchymal expansion resulting in mildly distorted left and right adrenal capsules yet without overt evidence of parenchymal escape or vascular invasion. No evidence of left or right parenchymal mineral was noted. The left adrenal gland measured 5.7 cm x 2.6 cm. The right adrenal gland measured 4.6 cm x 3.1 cm.

Spleen

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multifocal, well-defined, symmetrical, echogenic nodules were present throughout the medial parenchymal adjacent to the hilus. 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. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

Liver

The liver presented mildly 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 congestion. The gallbladder was non-distended in size with primarily anechoic luminal content and mild nondependent yet nonorganized debris. 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 variably echogenic nonshadowing ingesta 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 pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. The pancreatic presentation is consistent with age related changes and is considered incidental. No signs of active inflammation or neoplasia.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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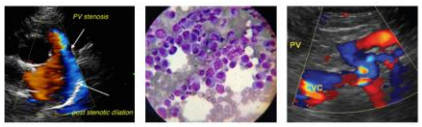

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ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function for age with myocardial remodeling and potential fibrosis
- Mild MR/TR-estimated pulmonary pressure gradient based on TR velocity suggestive of mild elevated pulmonary pressure yet not consistent with clinical pulmonary hypertension
- Bilateral adrenal masses
- Moderate chronic renal changes
- Benign splenic nodules-consistent with benign myelolipomas
- Subjective benign hepatomegaly with mild gall bladder debris (non-mucocele)
- Sonographically unremarkable GI tract with retained gastric ingesta

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The lack of LA enlargement indicates that the hemodynamic effects of the MR are low. Overall, no overt evidence of significant cardiomyopathy as an obvious cause of the patient's clinical signs. No indication for cardiac medication.

Potential considerations for the bilateral adrenal masses may include functional vs nonfunctional adenomas, hyperplasia or neoplasia such as pheochromocytoma, adenocarcinoma or other with potential for mixed pathologies. A full adrenal workup if clinically indicated as well as assessment of systemic BP for evidence of hypertension which may allude to a pheochromocytoma is recommended.

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

Although nonspecific the presence of retained gastric ingesta following a documented fast may suggest some degree of metabolic gastric stasis or nonobstructive delayed gastric emptying. Continued as needed GI supportive care is recommended.

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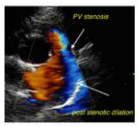

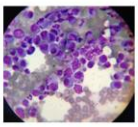

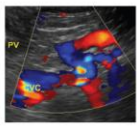

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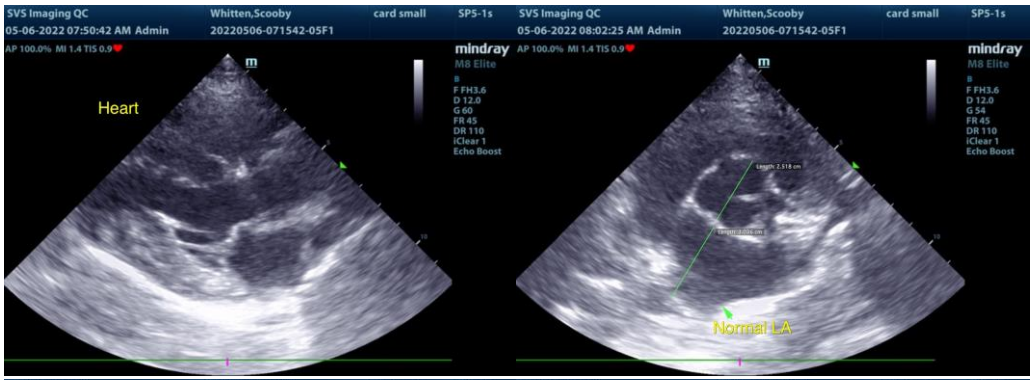

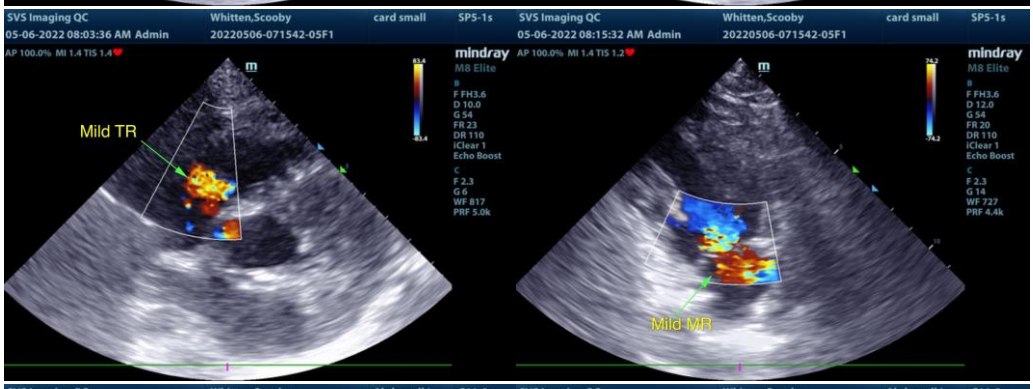

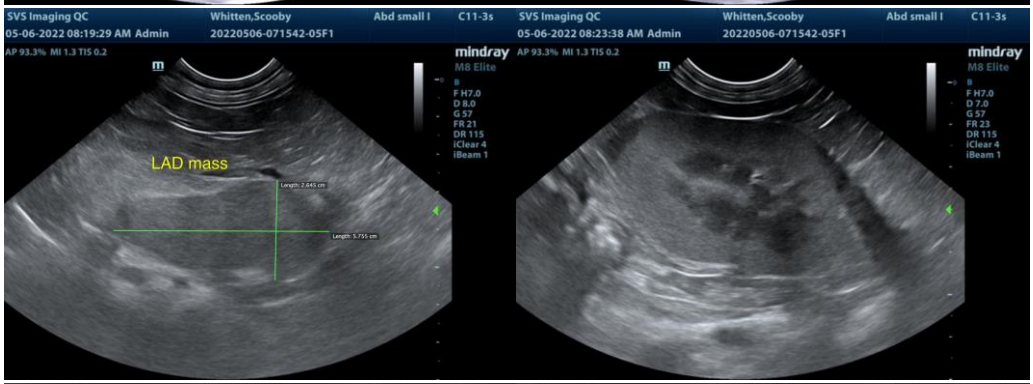

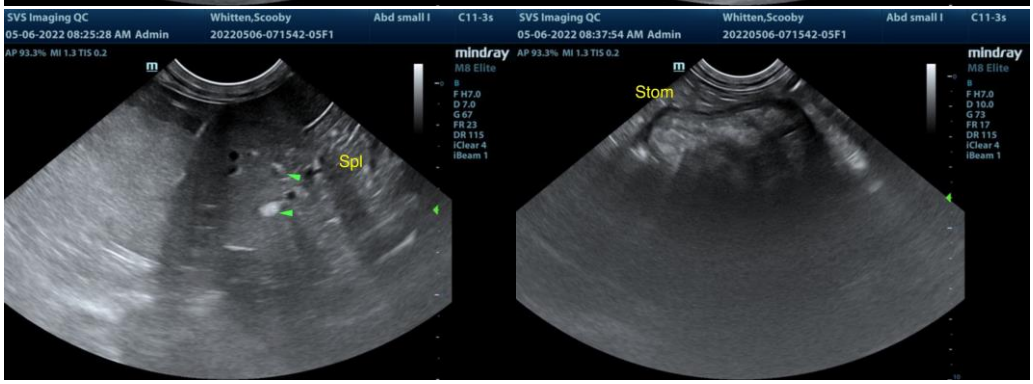

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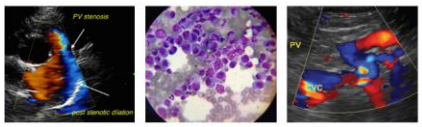

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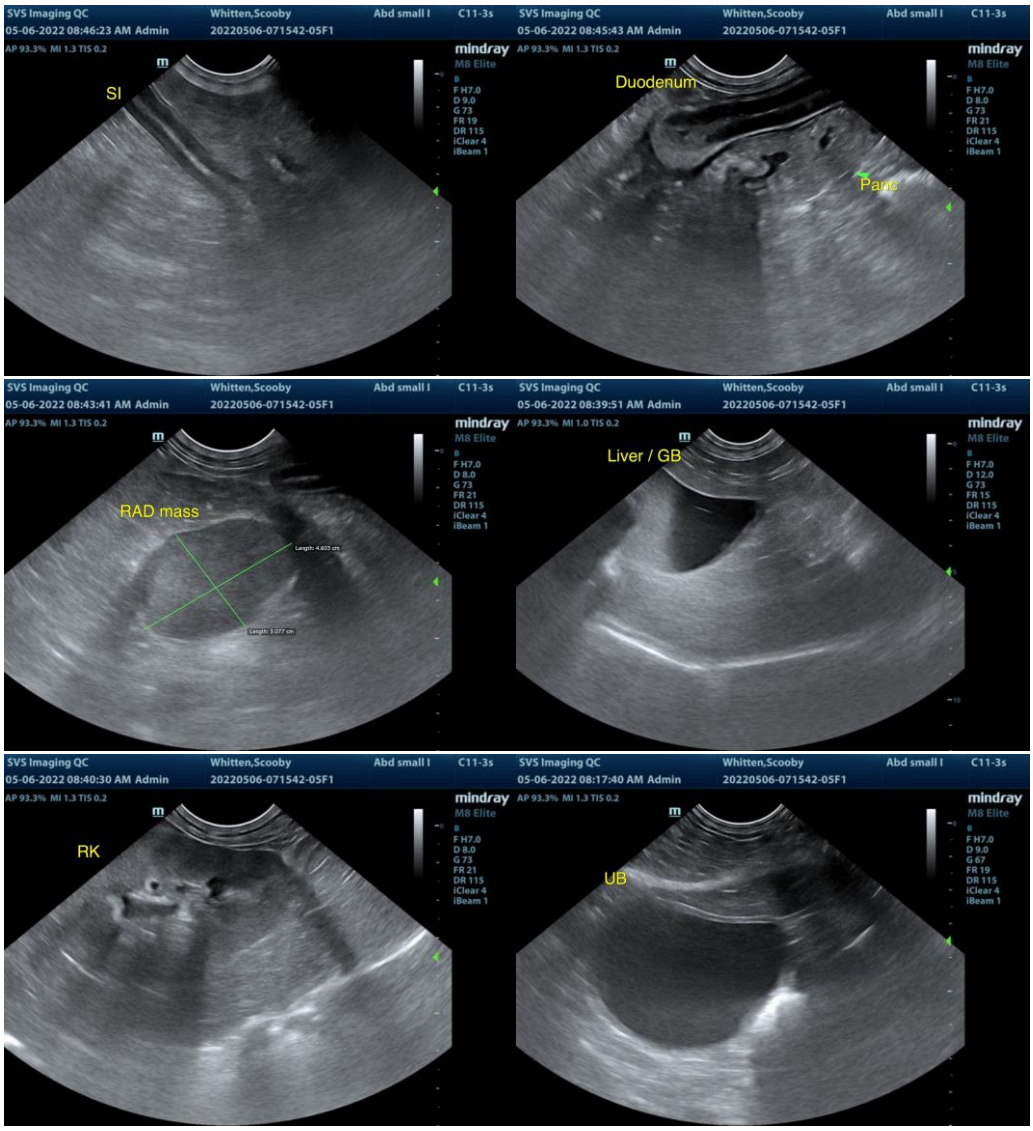

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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