IMAGING PERFORMED BY

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Toby Hooper

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

NM

AGE

15 years

WEIGHT

22 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Haenni

INVOICE

13195

DATE

1/27/22

PRESENTING CLINICAL SIGNS

Diarrhea, occasional cough Hx of bladder stones, had cystotomy and currently on c/d
Abnormal PE/Chem/CBC/UA Results: CBC WNL, ALT 134, CREA < 0.2 Enlarged heart on rads

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	<1.6	28-40	40-100	<0.6
PATIENT		2.7		1.23	49.2	82.5	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	BELOW	BELOW	BELOW	BELOW
PATIENT	83	1.5	0.92		3.3	2.5	

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 vegetative thickening consistent with endocardiosis. Doppler indicated minor 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 mild thickening with minor TR. 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). Trace PV insufficiency was present on color doppler. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of 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

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sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted. No evidence of recurrent calculi or sediment was noted.

The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture.

The area of the aortic trifurcation was free of pathology.

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 to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Areas of nonobstructive medullary renolithiasis were present in both kidneys. The left kidney measured 5.0 cm in length. The right kidney measured 5.7 cm in length.

Adrenal Glands

The left adrenal gland was mildly enlarged in size exhibiting nonhomogeneous parenchyma with discreet nodular parenchymal changes noted. No evidence of capsule distortion or parenchymal escape was noted. No evidence of vascular invasion associated with the left adrenal gland was present. The left adrenal gland measured 2.3 cm length x 0.99 cm width in the caudal pole.

The right adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The right adrenal gland measured 2.1 cm length x 0.55 cm width in the caudal pole.

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 exhibited subjective mild enlargement. 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 mild gallbladder debris. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. Minor retained nonshadowing ingesta / chyme was present. The gastric body wall width measured 0.37 cm.

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. The duodenum wall with measured 0.45 cm. The jejunum wall width measured 0.30 cm.

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The colon walls presented intact yet mildly prominent wall layering with mild thickened to echogenic submucosa. Semi-formed feces was present in the colon lumen with lumen dilation. The descending colon wall width measured 0.30 cm.

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 overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Overtly normal gastrointestinal tract with minor retained gastric chyme, probable mild colitis
- Prominent nonhomogeneous to subtly nodular left adrenal gland - nonspecific
- Low-grade hepatopathy - subjectively benign
- Mild gallbladder debris (non-mucocele)
- Overtly normal cardiac structure and function
- Minor MR/TR
- Trace PV insufficiency - estimated pulmonary pressure gradient based on measured TR velocity was not consistent with overt clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Dietary indiscretion / food hypersensitivity, occult parasitism or structurally insignificant inflammatory enterocolonopathy or gastroenterocolonopathy is possible. Further assessment may include a GI panel to include PLI/TLI/Cobalamin/Folate, as well as fresh fecal analysis to rule out parasitic ova / Giardia.

Empirically, a limited antigen or hydrolyzed diet trial with potential long term dietary therapy, prophylactic deworming (Panacur 50 mg/kg SID x 5 consecutive days with repeat protocol in 3 weeks even if fecal testing is negative), high colony count probiotic (Proviable or Visbiome), antibiotic trial and as needed gastrointestinal support with assessment of clinical response may prove beneficial. Intestinal biopsies may be indicated if GI signs continue despite empirical therapy.

The prominent nonhomogeneous to subtly nodular left adrenal gland may indicate age-related adrenal changes, adenomatous change, benign hyperplasia, while the possibility of emerging neoplasia cannot be definitively excluded. Screening blood pressure is recommended. Ideally, sonographic monitoring of the left adrenal gland for evidence of progression with initial recheck in 4-6 weeks is recommended.

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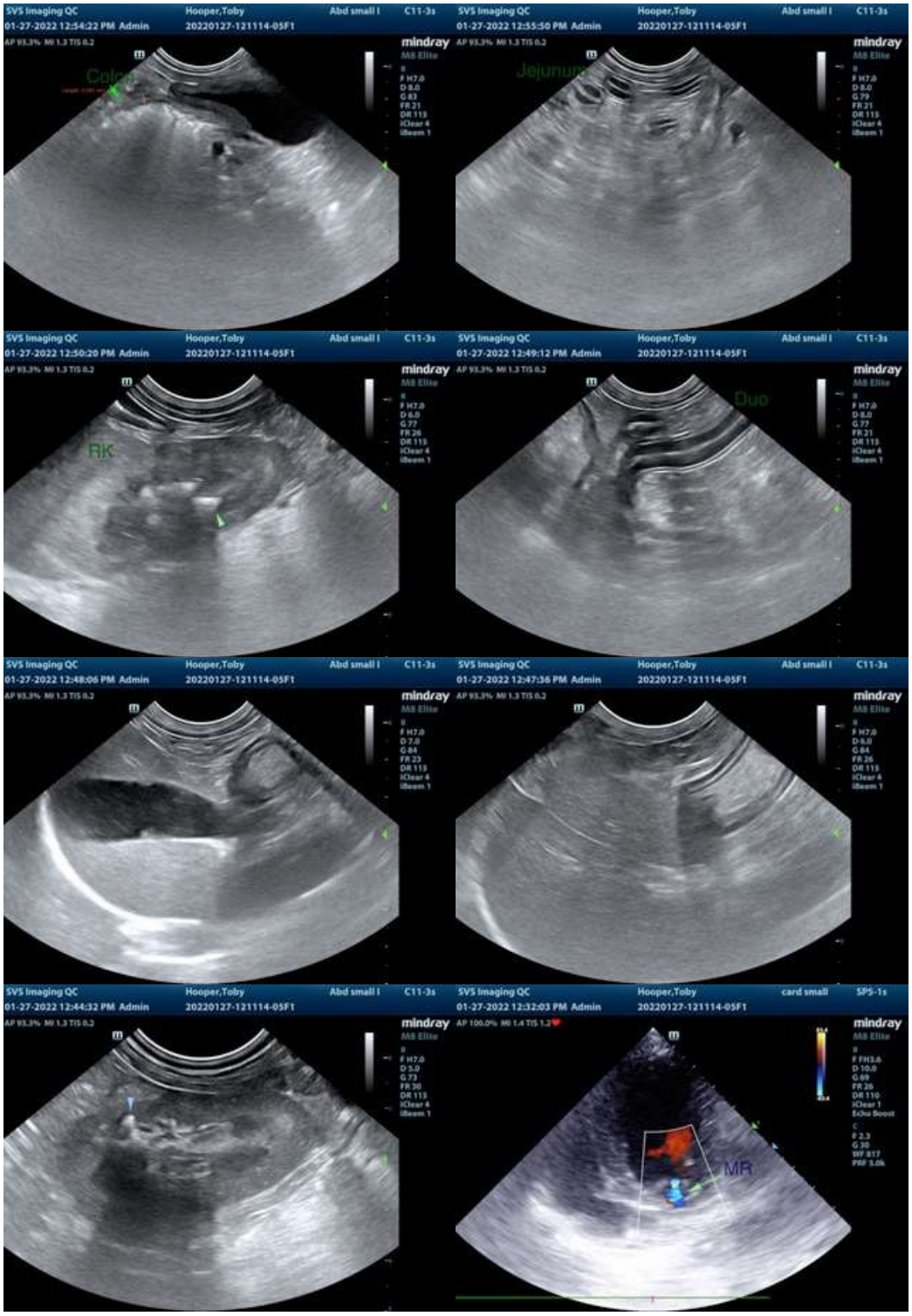
The hemodynamic effects of the minor MR and TR appear to be mild without evidence of left or right heart chamber enlargement. Overall, the normal cardiac function and structure was not consistent with a cardiogenic cough. No Indication for cardiac medications was evident. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs suggestive of cardiac decompensation arise.



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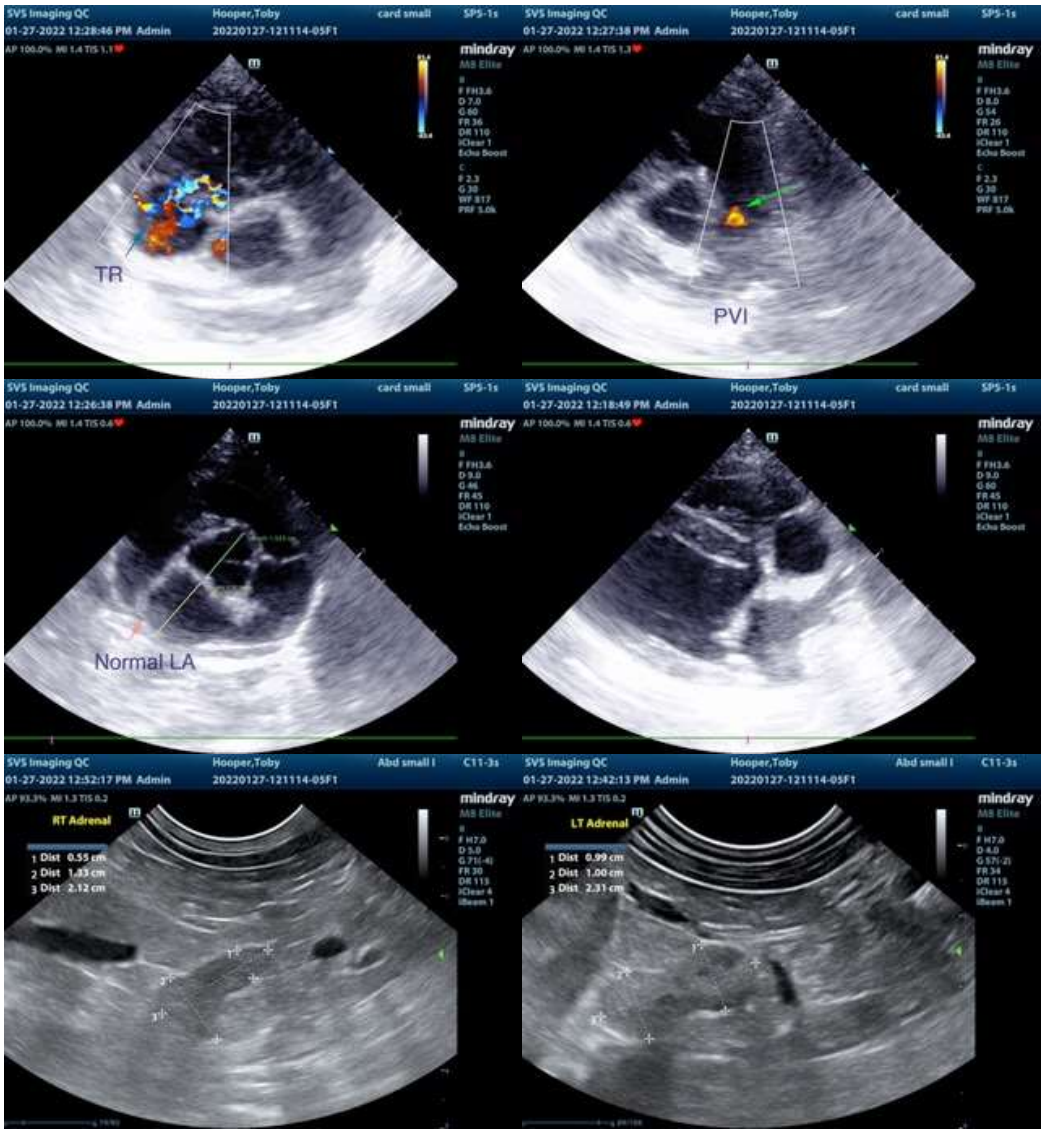

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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