



PATIENT

Magee Duffy

SPECIES

Canine

BREED

Jack Russel Terrier

SEX

FS

AGE

13 years

WEIGHT

15.3 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

ACC Flanders

REFERRING VET

Dr. Casulli

INVOICE

13458

DATE

3/9/22

PRESENTING CLINICAL SIGNS

Coughing x 2wks. Rads: Cardiomegaly VHS 11, LAE, and redundant tracheal fold. Current meds: Torb and Lasix inj. today.

Abnormal PE/Chem/CBC/UA Results: Mild non-reg anemia, ALT 154, ALKP 763, 4dx neg

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	5.3	<1.0	1.3	1.3	52.2	87.1	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	BELOW	BELOW	BELOW	BELOW
PATIENT	110	1.1	1.0		2.6	2.3	

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 measurable 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. 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** 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 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or



PATIENT	sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.
Magee Duffy	
SPECIES	The area of the aortic trifurcation was free of pathology.
Canine	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.
BREED	No evidence of pelvic dilation was present. The left kidney measured 4.1 cm in length. The right kidney measured 4.1 cm in length.
Jack Russel Terrier	
SEX	Adrenal Glands
FS	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.58 cm width at the caudal pole and 0.43 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 0.61 cm width at the caudal pole and 0.54 cm width at the cranial pole.
AGE	
13 years	Spleen
WEIGHT	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.
15.3 lbs.	
INTERPRETED BY	Liver/ Gallbladder
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The liver exhibited mild generalized enlargement with normal structure and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. Focal to intermittent nonhomogeneous to echogenic parenchymal nodules were present. An example measured 0.9 cm in diameter. No hepatic masses were noted. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and mild gallbladder debris. The gallbladder was otherwise normal. The cystic and common bile ducts were normal.
IMAGING PERFORMED BY	
Shari Reffi, CVT	Gastrointestinal
HOSPITAL NAME	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.
ACC Flanders	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.
REFERRING VET	Normal visible colon wall layers were present with apparent formed feces in lumen.
Dr. Casulli	Pancreas
INVOICE	The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
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PATIENT

Free Abdomen

Magee Duffy

No evidence of previously noted mesenteric lymphadenopathy was present. No effusion was noted.

SPECIES

ULTRASONOGRAPHIC FINDINGS

Canine

Primary Findings

BREED

Jack Russel Terrier

- Hepatopathy exhibiting parenchymal remodeling and focal nonspecific yet subjectively benign nodules - nodules suggestive of probable areas of hyperplasia or small lipogranulomas
- Mild gallbladder debris (non-mucocele)
- Static chronic renal changes
- Heterogeneous pancreas - likely age-related pancreatic changes and incidental

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

WEIGHT

15.3 lbs.

Although cardiomegaly was present on radiographs, the overall cardiac presentation continues to be consistent with compensated chronic mitral disease without evidence of left or right heart volume overload or other clinical issues such as systolic dysfunction or overt clinical pulmonary hypertension. The cardiac presentation suggests noncardiogenic cough in this patient. Assessment of clinical response to Lasix trial could be considered with as-needed respiratory therapy. No overt indication for additional cardiac medications was evident. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with heart disease arise.

INTERPRETED BY

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DVM, DABVP
(Canine and Feline)

No overt evidence of hepatic neoplastic criteria was noted. Considerations for the liver may include vacuolar hepatopathy, nonclinical cholestasis, low-grade nonspecific yet chronic hepatitis, early fibrosis, nodular hyperplasia, and hematopoiesis with associated parenchymal remodeling.

IMAGING PERFORMED BY

Shari Reffi, CVT

Assuming normal clotting status, ultrasound-guided FNA of the liver using a 25-gauge needle could be considered for screening cytology primarily to assess for evidence of inflammatory cells. Empirically, hepatosupportive medications including Denamarin and Ursodiol may prove beneficial.

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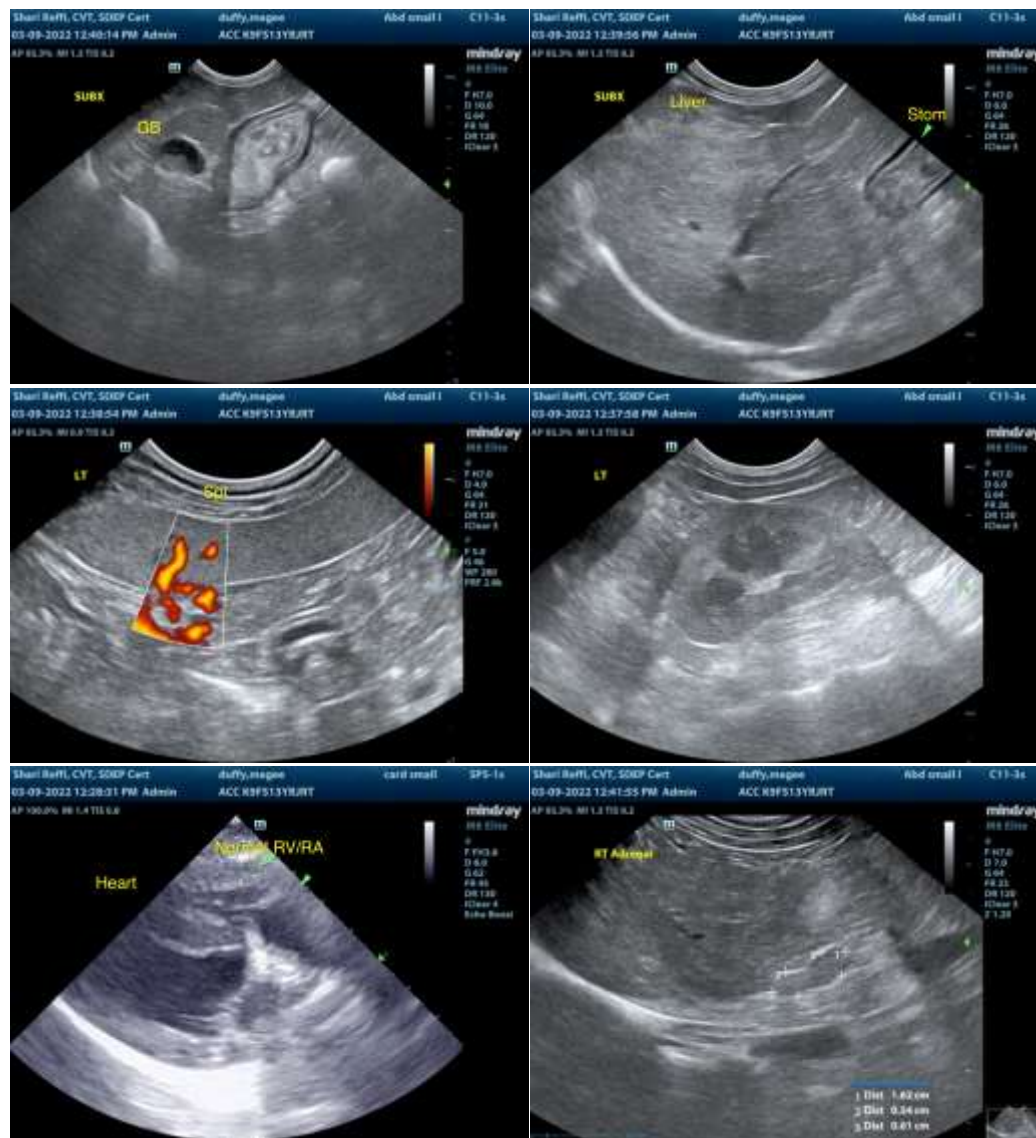
Dr. Casulli

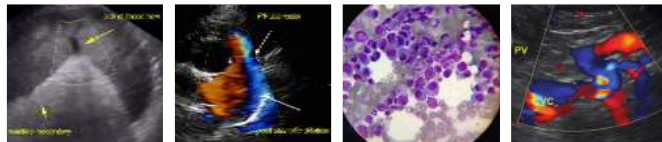
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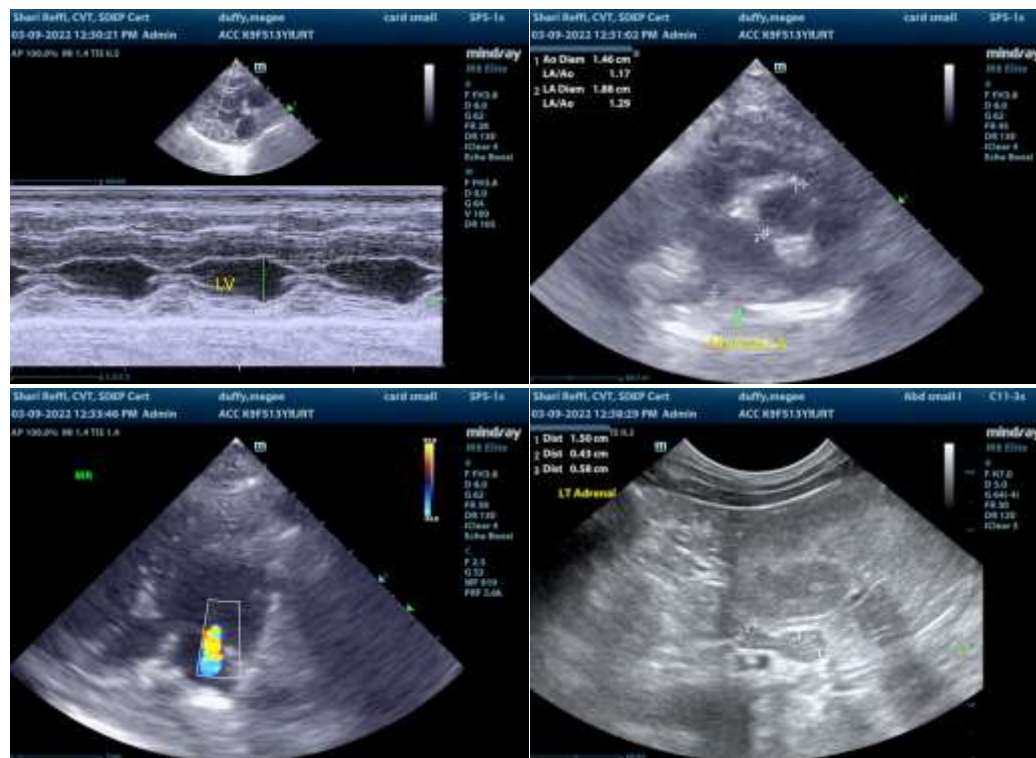
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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