

PATIENT

Lucy Leighfield

SPECIES

Canine

BREED

Shih Tzu

SEX

Spayed Female

AGE

10 Years

WEIGHT

9.1 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Amanda Stewart

HOSPITAL NAME

Big Creek Veterinary Hospital

REFERRING VET

Dr. Bilinsky

INVOICE

14992

DATE

04/10/26

PRESENTING CLINICAL SIGNS

Diarrhea for 1.5-2 weeks. Vomiting for 4 days prior to presentation, not eating. Significant weight loss from last exam. Still vomiting despite maropitant and hospitalization for 3 days. Mucoïd nasal discharge. pot-bellied appearance

Current Medications: maropitant 1mg/kg IV, metronidazole 15mg/kg IV q12h, ampicillin 11mg/kg IV q12, famotidine 0.5mg/kg IV q12, acetaminophen

Abnormal PE/Chem/CBC/UA Results: See attached lab work potassium normalized overnight to 3.5 (was 2.4 for 2 days) albumin dropped to 19 overnight Primary Question to Be Answered in This Exam Any signs of neoplasia, GI obstruction or rupture

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	NM	<2.0	NM	1.32	35	68	0.2
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LAD LA MAX 4 Chamber	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	NM	1.2	0.8	9.1	2.7	2.7	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented thickening consistent with endocardiosis. Doppler indicated mild eccentric MR. 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 mild TR on doppler. 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 cardiac / pericardial tumors was visible.



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Urinary System

The urinary bladder was mildly distended in size with normal tone. The 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 change were noted.

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 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 5.2 cm in length. The right kidney measured 5.3 cm in length.

Adrenal Glands

The adrenal glands were asymmetrically enlarged exhibiting nonhomogenous indistinctly nodular nonmineralized parenchyma. The left adrenal gland measured 2.7 cm length x 1.25 cm width at the caudal pole. The right adrenal gland measured 1.7 cm length x 0.93 cm width at 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 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 thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

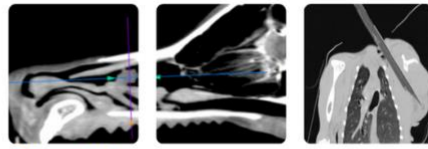
Gastrointestinal

The stomach presented mild thickened wall. Intact wall layering was maintained and distinct. The stomach contained a mild / moderate amount of retained anechoic fluid. No evidence of obstruction to pyloric outflow.

The intestinal walls demonstrated intact wall layering and maintained 1:3 muscularis / mucosa ratio. A primarily generalized mild intestinal ileus pattern is present with anechoic intestinal fluid and segmental gas to the level of the colon.

Normal visible colon wall layers were present with semi formed to soft fecal matter and gas.

Pancreas



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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 was evident.

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

BREED

Shih Tzu

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (B1).
- Mild TV insufficiency- no evidence of clinical pulmonary hypertension.
- Hepatopathy with sonographically normal gallbladder.
- Generalized nonspecific gastroenterocolonopathy exhibiting primarily generalized gastrointestinal ileus.
- Normal area of the pancreas.
- Bilateral nonhomogenous indistinctly nodular adrenomegaly.
- Mild age-related renal changes.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Prognosis is considered variable and sonographic monitoring is recommended. Recheck echo cardiogram is suggested in 6-12 months, sooner if clinical signs arise. Cardiac anesthetic risk is considered mild. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

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No definitive evidence of mechanical gastrointestinal obstruction, i.e. foreign body, mass, stricture, intussusception or other which suggest primarily generalized metabolic gastrointestinal ileus, potentially secondary to dietary indiscretion/intolerance, infectious disease, enterotoxin, inflammatory bowel, mild pancreatitis, occult neoplasia or other. Bilateral adrenal hyperplasia, functional versus non-functional adenomatous change, while potential for emerging unilateral/bilateral adrenal tumors are not definitively excluded.

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Sonographically, the hepatopathy suggests nonspecific benign criteria with occult hepatic neoplasia considered unlikely. Although current clinical presentation does not suggest Cushing's syndrome, adrenal screening or workup could be considered once gastrointestinal signs are stabilized. Without definitive evidence of obstruction, continued gastrointestinal support with clinical monitoring of gastrointestinal signs and albumin level would be appropriate. Gastrointestinal +/- hepatic biopsies are likely required for a definitive diagnosis and may be indicated if continued non-response to supportive care.

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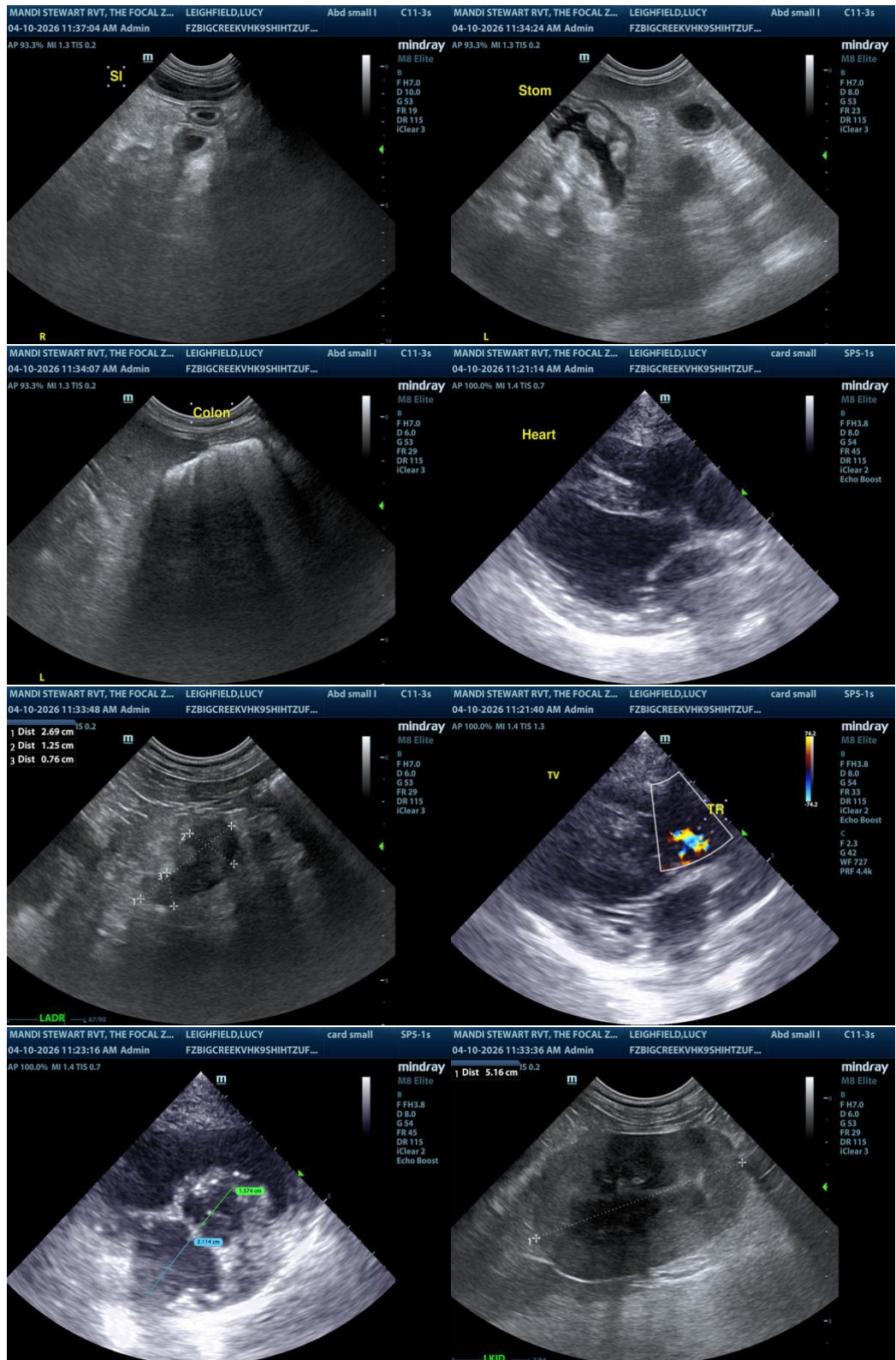
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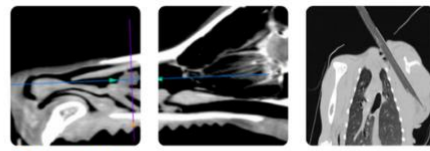
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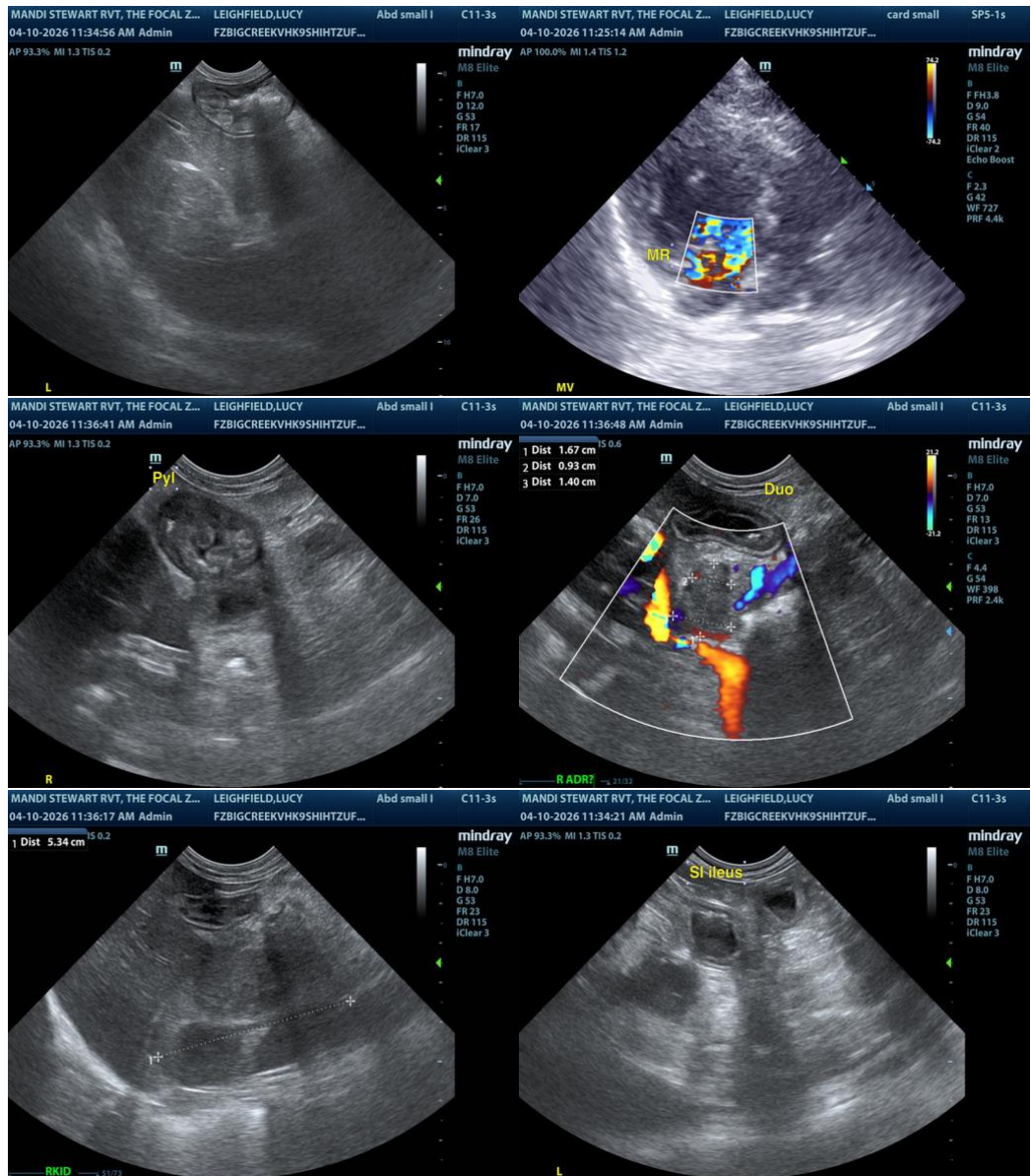
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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