



PATIENT

Tilly Wundschock

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

Female Spayed

AGE

14.5 yo

WEIGHT

16.6 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Kristen Carpenter

HOSPITAL NAME

Penridge AH

REFERRING VET

Dr. Kristen Carpenter

INVOICE

12869

DATE

12/2/25

PRESENTING CLINICAL SIGNS

History: Patient not sedated. Chronic hx of elevated LE since 3/2022. Had a sudden spike of ALT 10/2022 (ALT 538). An AUS was performed, and the liver was diffusely hyperechoic and increased GB sediment. Bile acids normal. Started Ursodiol and treated with baytril for 4 weeks and ALT and ALP normalized. New elevations started again 9/2025. Baytril was reinstated with no response. Current liver enzymes - ALT 223, ALP 502, tbili 0.3. O has noted a mild increase in appetite and mild increased water consumption. LDDST was performed and neg for Cushings. Here for repeat AUS as next step. Patient also needs recheck monitoring echo. Echo last performed 12/2024 - consistent with chronic valve disease mitral valve stage B1. On exam, there is a stable grd 2-3 L systolic and grd 1-2 R systolic murmur. Patient is currently asymptomatic for cardiac signs. Patient currently has diarrhea from dietary indiscretion and is on a short course of metronidazole.

Chronic meds - Ursodiol, Adequan, Bravecto, Cetirizine, Sentinel, Denamarin.

Current diet: Sundays for Dogs.

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	--	--	--	1.2	40	73	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	1.9	0.9	--	2.7	2.9	--

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 thickening with mild valve prolapse. Doppler indicated measurable significant eccentric insufficiency. MR velocity measured 5.7 m/s. 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.



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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.

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

The area of the aortic trifurcation was free of pathology.

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. Minor medullary mineral was noted. The left kidney measured 4.4 cm in length. The right kidney measured 4.1 cm in length.

Adrenal Glands

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.64 cm. The right adrenal gland measured 0.51 cm.

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

The liver exhibited hepatomegaly with symmetrical capsule contour and non-homogeneous, mildly hyperechoic parenchyma. Multicentric, discrete, hypoechoic intraparenchymal nodules were present with an example measuring 0.9 cm in diameter. The gallbladder was non distended in size with mild to moderate, congealed, non-organized, echogenic, nonmineralized biliary sludge. The cystic duct and common bile ducts were normal without evidence of dilation.

Gastrointestinal

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.

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.



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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 was evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

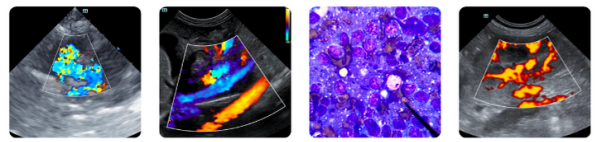
- Chronic mitral valve disease with valve prolapse (B1)
- Hepatopathy exhibiting non-uniform parenchyma hyperechogenicity and discrete hypoechoic nodules
- Non-organized gallbladder debris (non-mucocele)
- Age-related renal/adrenal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The lack of LA enlargement or left heart volume overload continues to indicate the current and future risk of complications secondary to MR is mild. Without evidence of chamber enlargement, assuming patient is non-clinical, no overt indication for cardiac medications. Prognosis is considered variable and echocardiographic monitoring is advised. Recheck echo in 6 months, sooner if clinically indicated. If anesthesia is required, the following protocol is suggested. 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.

Chronic vacuolar hepatopathy, inflammatory disease, hyperplasia, fibrosis, non-obstructive cholestasis, neoplasia (considered less likely) all potentials. Further assessment may include, assuming normal clotting status, hepatic FNA cytology. Hepatic biopsy is likely required for definitive diagnosis. No overt evidence of adrenal pathology as a contributing factor in conjunction with negative adrenal testing Continued hepato-supportive medications including Denamarin and Ursodiol with clinical monitoring is recommended.





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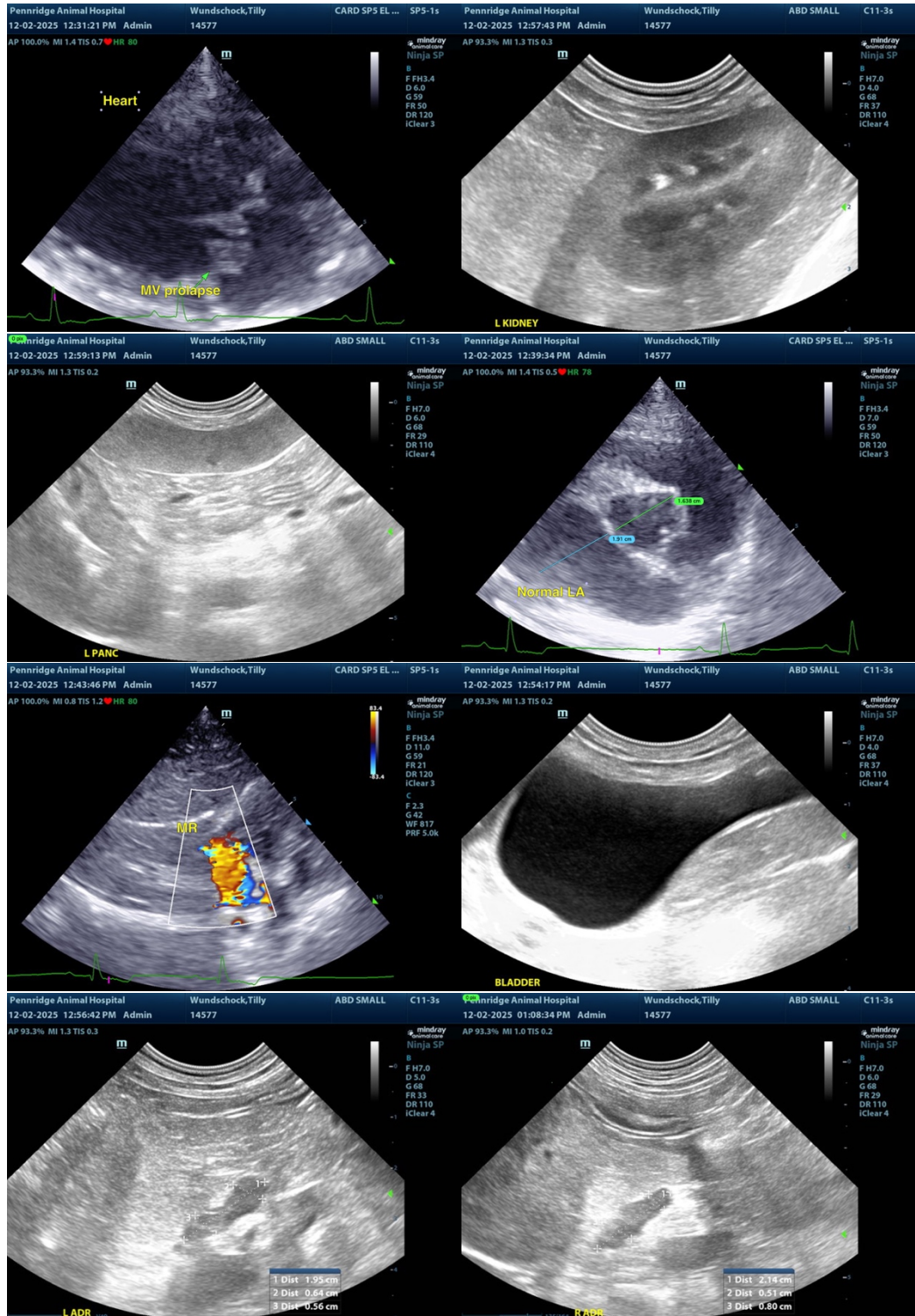
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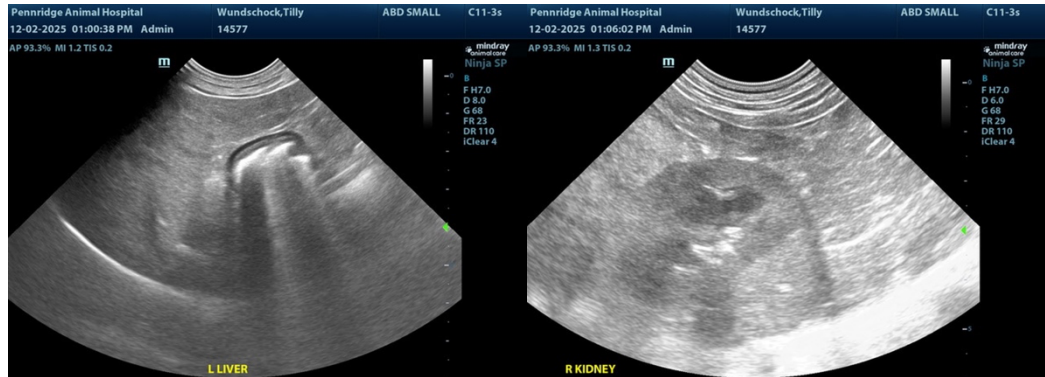
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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