



PATIENT

Penny Muniz

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

10 Years

WEIGHT

9.5 pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe CVT

HOSPITAL NAME

Newton Veterinary
Hospital

REFERRING VET

Dr. Timony

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15211

DATE

04/17/26

PRESENTING CLINICAL SIGNS

Cranial abdominal mass palpated. Intermittent diarrhea, distended abdomen, palpated cranial abdominal mass, heart murmur grade 2-3/6

Abnormal PE/Chem/CBC/UA Results: 9/27/25 ALT 184, ALP 5666, PLT 796

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	--	40	73	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (lbs)	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	--	--	9.5	2.6	2.6	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented thickening consistent with endocardiosis. Doppler revealed moderate 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 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 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



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sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic change were noted.

The area of the aortic trifurcation was free of pathology.

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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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. Focal areas of medullary mineral were present. The left kidney measured 3.7 cm in length. The right kidney measured 4.2 cm in length.

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Adrenal Glands

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An indistinctly marginated nondisruptive mildly hyperechoic nodule was present in the cranial pole of the left adrenal gland without mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 0.62 cm x 0.55 cm in diameter. The left adrenal gland measured 0.63 cm width at the caudal pole with mild enlargement.

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The right adrenal gland was mildly enlarged in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The right adrenal gland measured 0.67 cm width in the caudal pole.

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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.

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Liver & Gallbladder

The liver revealed a caudally expanding nonhomogenous focally cystic to potentially cavitated liver mass measuring 8.0 cm to 9.0 cm in diameter.

The gallbladder was non distended in size with congealed mildly organized biliary sludge. The cystic duct and common bile ducts were normal without evidence of dilation.

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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.

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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.

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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.



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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

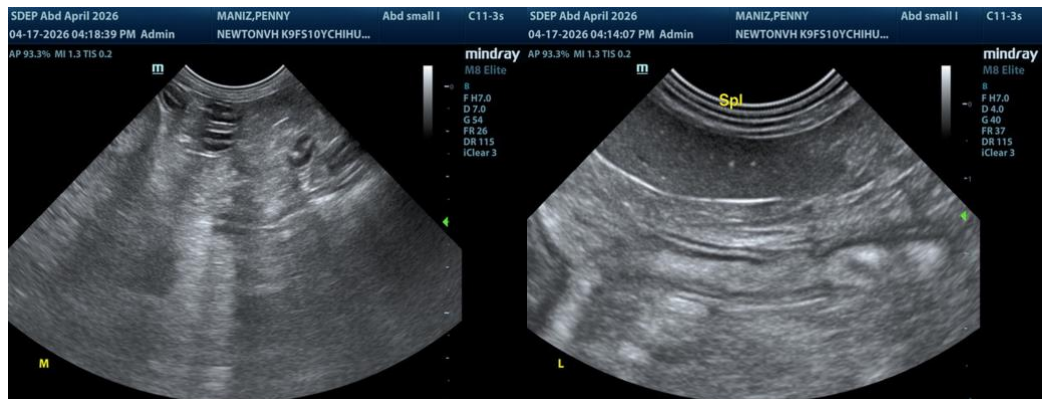
ULTRASONOGRAPHIC FINDINGS

- Compensated mitral valve disease (B1).
- Liver mass.
- Early immature gallbladder mucocele.
- Age-related renal changes.
- Bilateral mild adrenomegaly with indistinct left adrenal nodule.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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. No anesthetic contraindications. 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.

The liver mass is consistent with neoplastic criteria although sampling is required for further clarification. FNA cytology of the liver mass could be considered assuming normal clotting status, whereas biopsies for histopathology would be ideal, however, given the extent of liver mass, complete surgical resection is considered unlikely given possible extension of mass into area of porta hepatis and involvement of more than one liver lobe. Left adrenal adenoma is suspected with minor potential for emerging primary or metastatic tumor. Monitoring of systemic blood pressure is suggested.





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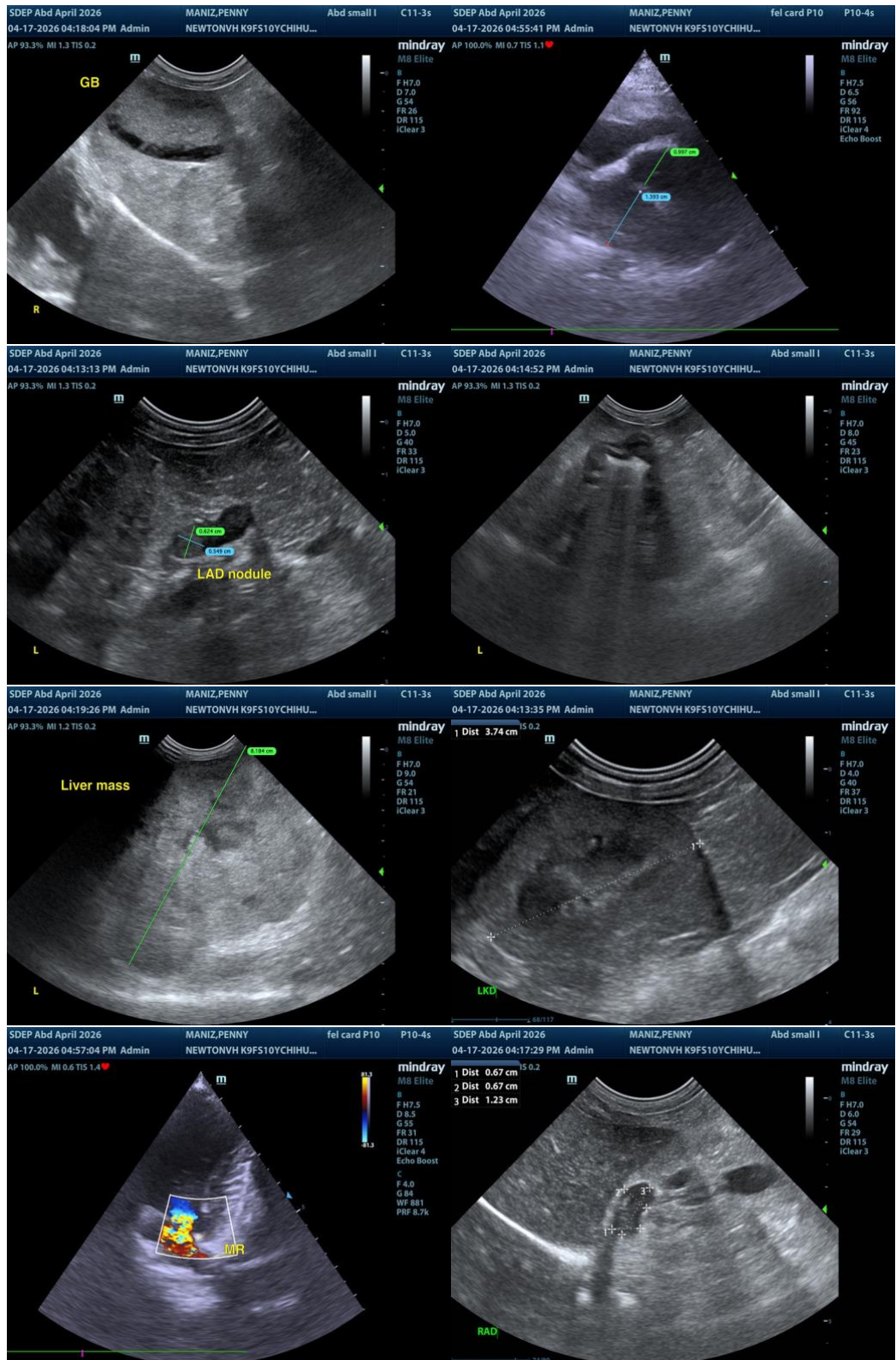
Dr. Timony

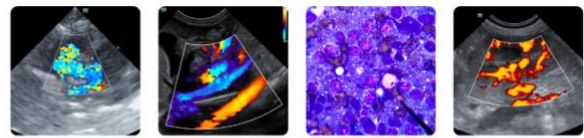
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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