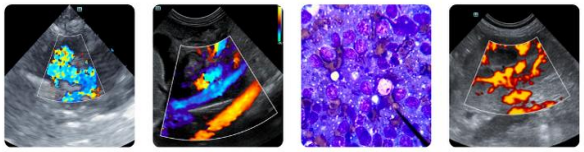


Clinical Sonography & Telecytology
Educational Teleconsultation Services™

PATIENT
Kyla Todd

SPECIES
Canine

BREED
Mix

SEX
FS

AGE
10yr

WEIGHT
63lb

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

IMAGING PERFORMED BY
Rebecca Hamilton

HOSPITAL NAME
Marsh Animal Hospital

REFERRING VET
Dr Megan Armani

INVOICE
23997

DATE
02/26/2026

PRESENTING CLINICAL SIGNS

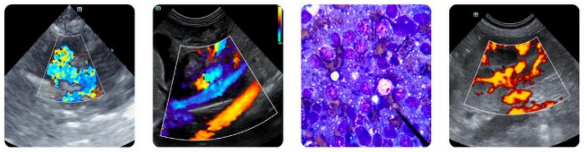
- long Hx of Gastroenteritis, IBD, Hypothyroid, Cushing's Disease
- recent Hematuria
- U/S 5/25 elsewhere liver vacuolar/ steroid hepatopathy
- Meds: Thyrosyn, Gabapentin, Vetoryl, Ursodiol, Cobalequin, Denamarin, UT Strength, Minocycline and TMS currently
- Abnormal PE/Chem/CBC/UA Results: Blood 3+, RBC >50, Bacteria rods >10, USG 1.019, culture free catch: Klebsiella Pneumoniae, Proteus Mirabillis

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

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	--	--	--	1.4	33	62	0.3
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**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	132	1.6	1.0	63lb	4.3	4.6	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 2 separate methods of LA evaluation. The cranial and caudal mitral valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR on Doppler. 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 borderline subnormal 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. Normal measured LVOT velocity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonary outflow tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Normal measured RVOT velocity. No visible pericardial or free pleural fluid was noted.



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The cranial mediastinum and pericardial and extra-cardiac regions were free of masses in the visible window. No evidence of arrythmia.

Urinary System

The urinary bladder was mildly distended in size with normal tone and generalized hyperechoic interface in the ventral and visualized dorsal wall with reverberation artefact consistent with diffuse emphysematous cystitis. The trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no evidence of urine/lumen sediment, mineral, or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Pinpoint hyperechoic medullary foci which may indicate pinpoint areas of medullary mineralization or fibrosis were present. The left kidney measured 8.0 cm in length. The right kidney measured 8.1 cm in length.

The area of the iliac trifurcation was free of pathology including no evidence of medial iliac or sublumbar lymphadenopathy or masses.

Adrenal Glands

Bilateral symmetrical adrenal gland enlargement with uniformly hypoechoic parenchyma was present. The left adrenal gland measured 1.3 cm width at the caudal pole. The right adrenal gland measured 1.2 cm width at the caudal pole.

Spleen

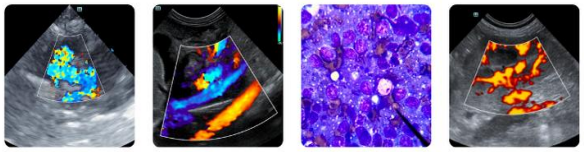
The spleen was normal in size with mild medial capsule asymmetry. Mild parenchyma heterogeneity exhibiting multiple pinpoint to focal hyperechoic splenic foci, some with distal acoustic shadowing which may indicate areas of mineralization, fibrosis, nodular hyperplasia, mild lipomas or combination were present. No evidence of mass.

Liver/Gallbladder

The liver presented 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 mild non-organized debris. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach was moderately distended with retained variably echogenic ingesta. Within the ingesta strongly shadowing echo or content was present in the gastric lumen and appearing to extend into the area of the pyloric outflow measuring ~ 3 cm in diameter.



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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 mechanical/metabolic ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

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 omental masses, overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

Primary

- Emphysematous cystitis
- Mild chronic renal changes, no evidence of pyelonephritis
- Bilateral adrenomegaly consistent with patient history
- Hepatopathy- most consistent with vacuolar or steroid hepatopathy given patient history, non-obstructive cholestasis, hyperplasia, inflammation, all potentials without overt hepatic neoplastic criteria
- Non-organized gallbladder debris (non-mucocele)
- Shadowing gastric content /echo with retained non-shadowing gastric ingesta- variably dense food echogenicity, treat, gastric foreign body possible
- Sonographically unremarkable gastrointestinal tract/ area of pancreas
- Normal echocardiogram with borderline subnormal LV contractility- systemic disease, hypothyroidism, athletic state may present in this manner, DCM criteria was not met

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Correlation with most recent meal ingestion and current gastrointestinal signs, i.e. evidence of anorexia, vomiting, etc. is recommended. Documented 12 hour fast and sonographic reassessment of the stomach is indicated. The persistent strongly shadowing gastric content and retained ingesta despite fast in conjunction with gastrointestinal signs, gastric endoscopy or laparotomy with gastrotomy may be indicated. Broad spectrum antibiotic combination with concurrent sonographic monitoring of the urinary bladder and as needed recheck C/S is recommended. Serum BG +/- fructosamine level suggested if concerned for potential diabetes.

For an additional charge, internal medicine consult can be utilized through Sonopath.com. You can select the internal medicine drop down at http://spa.sonopath.com/.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services

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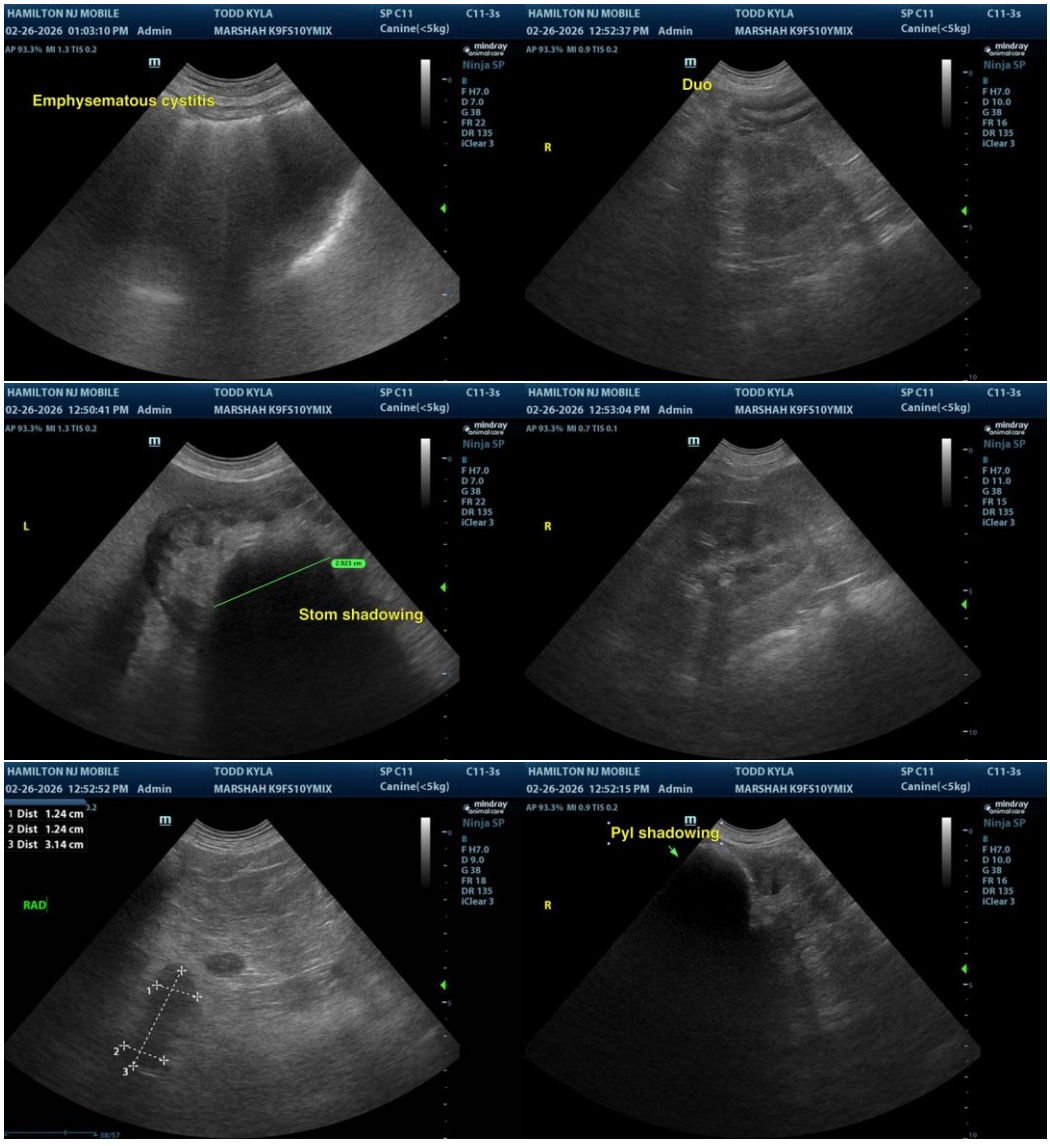
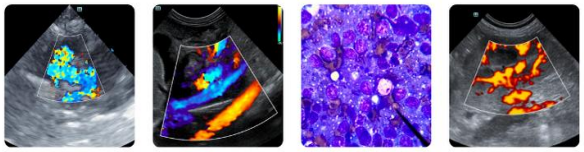


New Jersey Mobile
FUELED BY SONOPATH VETERINARY ULTRASOUND



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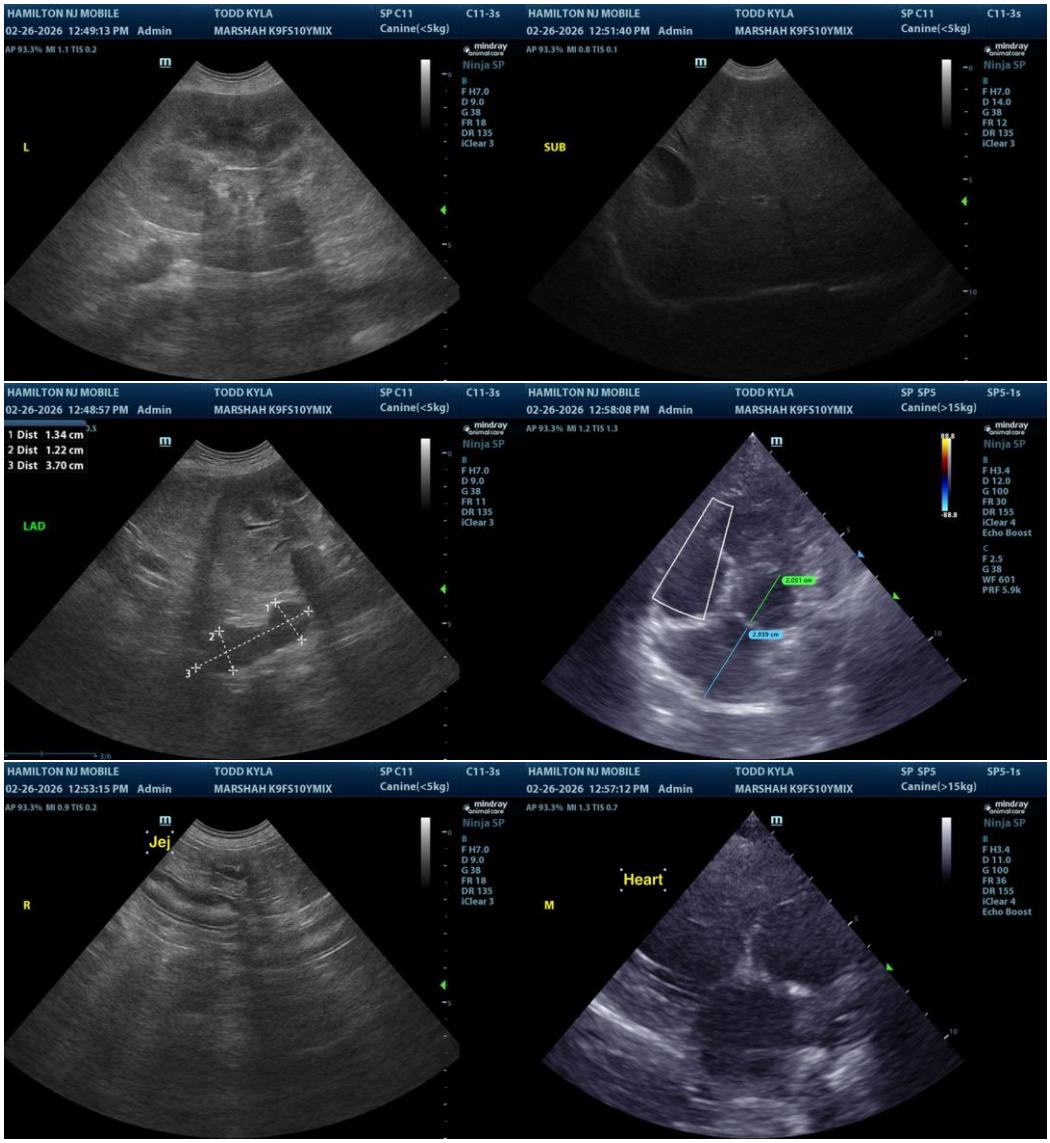

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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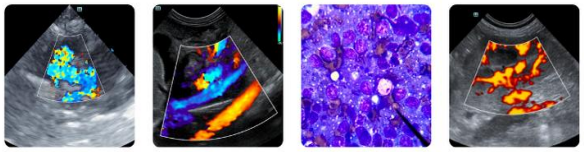

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