



PATIENT

Gizmo Sloan

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

5 Years 9 Months

WEIGHT

6.8 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Patti Mayfield, DVM

HOSPITAL NAME

Emergency VH

REFERRING VET

Patti Mayfield, DVM

INVOICE

23058

DATE

6/25/23

PRESENTING CLINICAL SIGNS

History: Gizmo presented as a transfer from Animal Health Associates (AHA) for further evaluation and care for hepatopathy of unknown origin. Gizmo received Simparica Trio on 6/22/23 (2 days ago), as usual. In the past, he has occasionally experienced mild gastritis (vomiting). Within 3 hours of receiving the medication, he vomited and has continued to vomit over the last 2 days. He is anorexic. PE at AHA revealed non-painful abdomen No known ingestion of mushrooms, xylitol, NSAIDs, Acetaminophen, or any other noxious/toxic substances. CURRENT TREATMENTS: 1.) IV catheter 2.) Cerenia 6.8 mg IV 3.) LRS bolus 5 mL/kg IV (34 mL in 30 mins), then @ 25 mL/hr 4.) Butorphanol 0.2 mg/kg IV to facilitate AUS 5.) Lepto panel submitted (blood and urine, prior to ABX) 6.) Unasyn 204 mg IV TID 7.) Denamarin Advanced, small dog; 120 mg PO q 24 hours 8.) FFP transfusion (240 mL/4 hours) 9.) Vitamin K1 25 mg PO BID (3.7 mg/kg)

Abnormal PE/Chem/CBC/UA Results: PE: ~ 5% dehydrated, pink/slightly icteric and tacky mm's. No murmur. Non-painful abdomen. Moderate ecchymosis at the right jugular vein from previous venipuncture. CHEM: -- ALT >>> too elevated to read; dilution pending -- BG: 63 mg/dL (74-143) -- BUN: 6 mg/dL (7-27) -- ALP: 1059 U/L (23-212) -- GGT: 12 U/L (0-11) -- BILI: 3.8 mg/dL (0-0.9) CBC: -- HCT wnl at 55% -- LMPH: 650/uL (1050-5100) -- PLT: 109 K/uL (148-4840 PT: >100 sec (11-17) PTT: >300 sec (72-102) cPL: Normal (run accidentally) Repeat BG: 98 mg/dL Lepto panel to IDEXX: pending

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction. The residual prostate measured 6.0 mm.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.46 cm. The left kidney measured 4.41 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.93 cm x 0.43 cm at the caudal pole and 0.46 cm at the cranial pole. The right adrenal gland measured 1.79 cm x 0.38 cm at the caudal pole and 0.87 cm at the cranial pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.



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Liver

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The **liver** was significantly subnormal in size with increased portal markings. The gallbladder and common bile duct were unremarkable. The vena cava, at the portal hilus, measured 0.72 cm. Prior the hilus, the portal vein measured 0.67 cm, however, the branching was not clear, owing to interference in the pylorus. Cannot rule out a right divisional intrahepatic shunt. The right branch of the portal vein appears to deviate towards the vena cava yet a definitive connection could not be made.

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Gastrointestinal

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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and the colon was empty. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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Pancreas

The right limb of the **pancreas** was prominent and hypoechoic with possible low-grade inflammation.

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ULTRASONOGRAPHIC FINDINGS

- Microhepatica and chronic inflammatory hepatopathy
- Prominent hypoechoic pancreas

WEIGHT

6.8 kg

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I recommend CT with contrast in this patient to rule out the possibility of macroscopic shunting. Given the size of the liver, I cannot justify the subnormal size completely on fibrotic remodeling and primary portal hypoplasia/microvascular dysplasia or macroscopic shunting as a potential. CT with contrast, stabilization of the coagulation parameters, and eventual liver biopsy are indicated, depending upon CT findings. Leptospirosis titers is warranted to rule out potential complicating factors. Prognosis is guarded. Copper storage is also a potential yet would not explain the acute onset in the patient history. Acute on chronic failure is likely.

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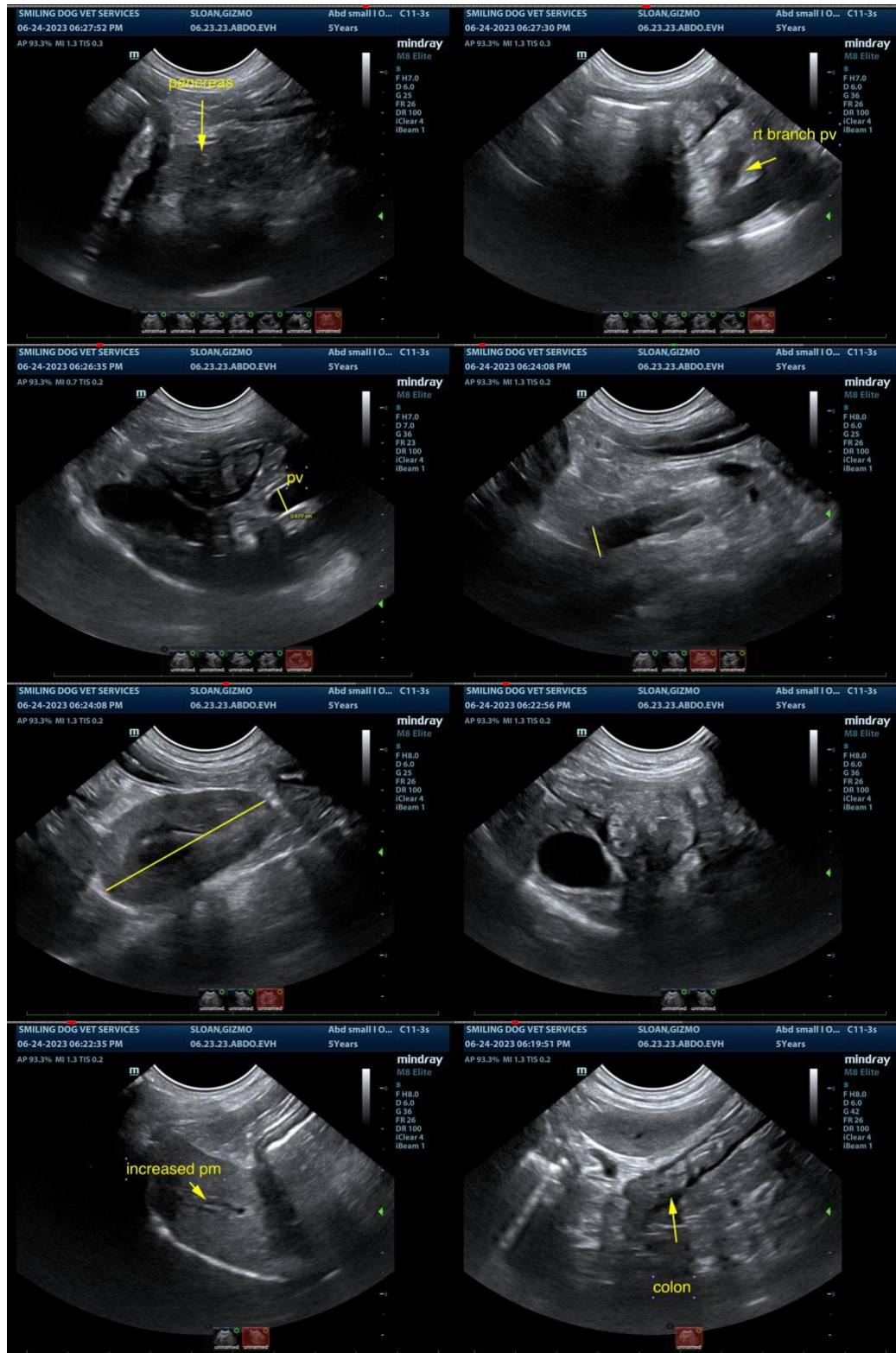
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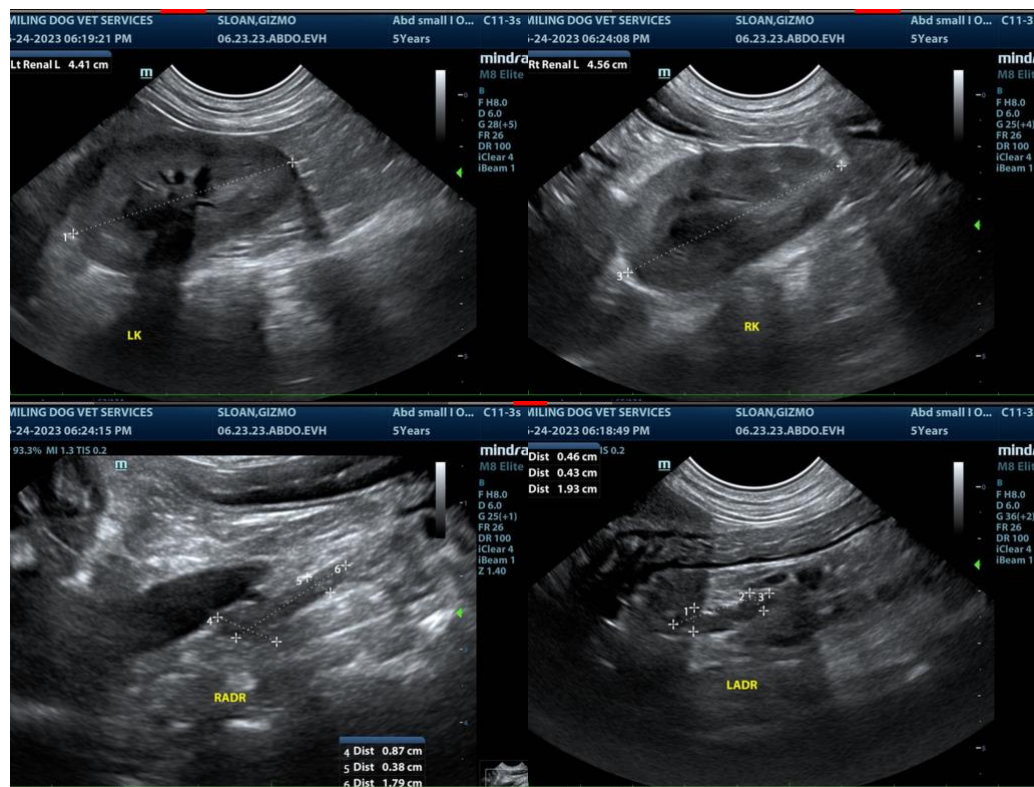
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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