



PATIENT

Taz Asher

SPECIES

Shih Tzu

BREED

Shih Tzu

SEX

Neutered Male

AGE

3 Years

WEIGHT

15.8

INTERPRETED BY

Eric Lindquist, DMV,
DABVP (CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Dr. Harbord/Caughlin

HOSPITAL NAME

Animal Care Center VC

REFERRING VET

Dr. Harbord/Caughlin

INVOICE

37107

DATE

5/13/26

PRESENTING CLINICAL SIGNS

History: Patient presents for liver enzyme work up. PT is currently being treated with active HW infection. Initially planned for Melarsomine injection protocol but postponing due to elevated liver values (seeking other treatment options pending diagnostic results).

Current Medications: Gabapentin 100mg TID, Trazodone 50mg TID, Doxycycline 75mg BID

Prior HX: HW Positive (currently under treatment with Interceptor Plus and Doxycycline) // suspected cerebellar hypoplasia (intention tremors).

Abnormal PE/Chem/CBC/UA Results: 5/7/26 Bile Acids: Pre: 24.3 / Post-prandial: 2.7 4/23/26 ALT 372 / ALKP 169 4/9/26 Senior Profile - CBC: 20.3, Neu 11.59, Lymph 4.24, Mono 1.58, Eos 2.8 // Chem: ALT 361 // Microfilaria: Present - Dirofilaria immitis: 1-5/LPF 4/8/26: 4dx: HW Antigen Positive

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** revealed slight granular sand. Minor polypoid changes were noted in the bladder. The bladder wall measured up to 0.4 cm at mild repletion.

The **prostate** was slightly heterogenous, measuring 1.1 cm.

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 4.08 cm. The left kidney measured 3.9 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 0.54 cm. The right adrenal gland measured 0.8 cm at the cranial pole and 0.5 cm at the caudal 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.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic



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lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident. The portal vein to vena cava ratio was 1:1. The hepatic vein entering into the vena cava was normal. The portal vein was of normal size with normal branching, no evidence of extrahepatic shunting. The portal vein measured 0.6 cm at the level of the trifurcation. No evidence of macroscopic shunting was noted.

Gastrointestinal

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 stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal, and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

- Structurally unremarkable liver, potentially reactive hepatopathy
- No evidence of macroscopic shunting
- Urinary bladder sand and minor polypoid changes
- Slightly heterogenous prostate

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Spurious elevation of bile acids can occur for multiple reasons. It may be related to the ALT elevation, however, there is no structural evidence of disease. Cannot rule out portal hypoplasia/microvascular dysplasia, however, this would necessitate liver biopsy for definition. Underlying leptospirosis should be ruled out, however, structurally the liver appears unremarkable. This is potentially reactive hepatopathy as cause of the ALT elevations.

The hepatic clinical sonographic presentation is most consistent with Reactive Hepatopathy which is the most common cause of liver enzyme elevation in dogs and cats. The presumption is that gut and other organ antigen stimuli may be causing a low-grade immune response through portal system with which the liver is reacting to causing low-grade enzyme elevations. US-guided FNA could be performed to assess if low grade lymphoplasmacytic inflammation is present that would support this theory. If FNA is performed, please ask the cytologist to emphasize the primary inflammatory cell type. Empirical treatment measures to address this issue can include diet change to hydrolyzed diet, probiotics, deworming, neutraceuticals (SAmE, ACTi gall...), dental exam and cleaning, and potentially antibiotics such as Clavamox. Metronidazole and Tylosin have traditionally been utilized for this purpose, but new studies show that both these antibiotics can disrupt the normal intestinal bacterial flora (intestinal dysbiosis) for weeks and up to 4-6 months. Therefore, Metronidazole and Tylosin should be utilized as a last resort if other efforts have not been effective and sonographic organ appearance remains benign.



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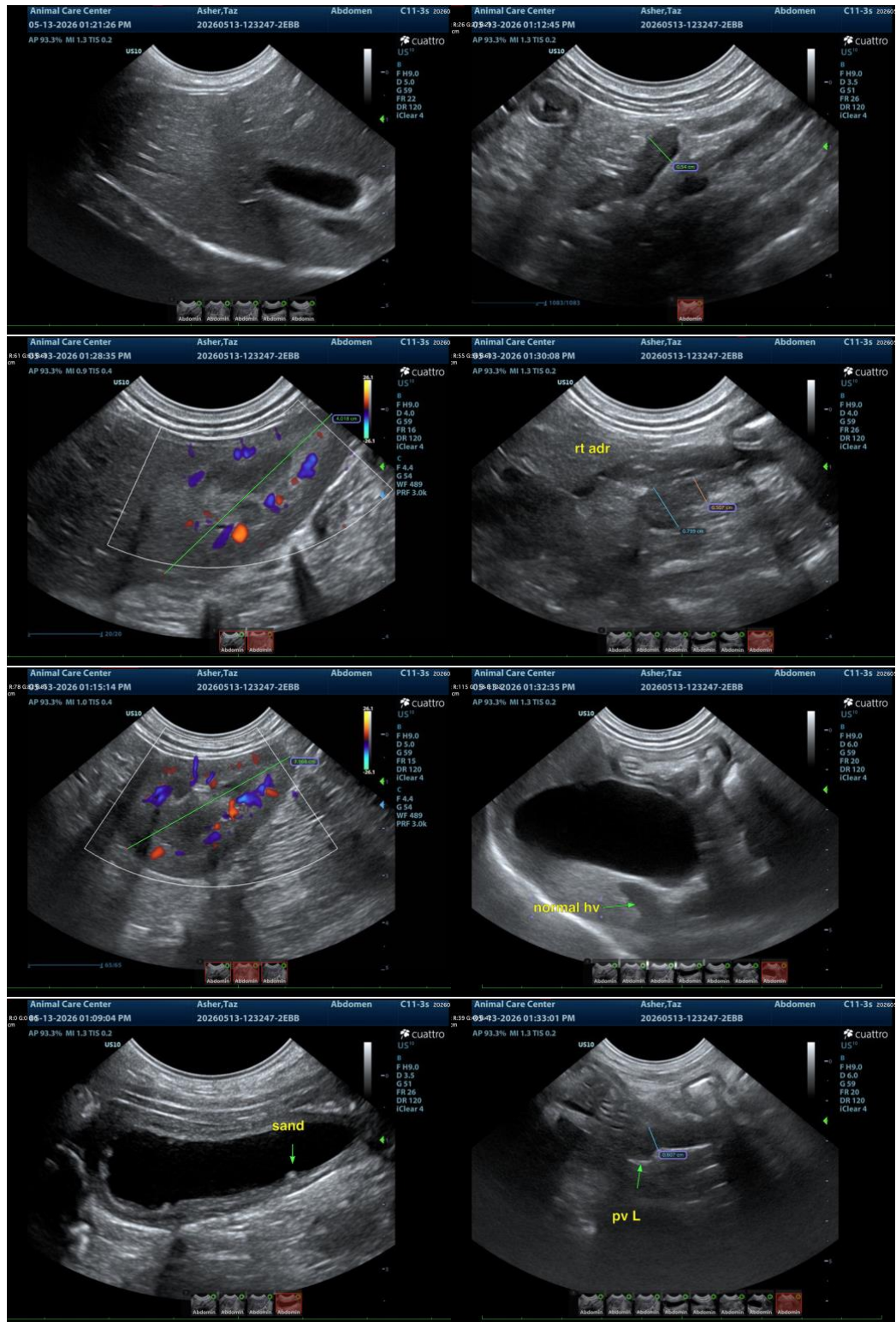
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,
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