



**PATIENT**

Scottie Yancy

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Male

**AGE**

8 Months

**WEIGHT**

5.3 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING  
PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Craig

**INVOICE**

23320

**DATE**

7/13/23

**PRESENTING CLINICAL SIGNS**

History: Patient presenting for AUS following elevated ALT on routine pre-op bloodwork prior to neuter. According to owner, Scottie has probably only been outside about 5-7 times in the last 6 months. He isn't into exploring yet when he is outside, as he sticks really close to o. The only meds he has taken is the heartworm. The one time o gave him the fish oil, it seemed to upset his stomach, so o didn't give it to him again, That was several months ago. Also, according to o he hasn't had any issues with his appetite, drinking or urinating, He is usually very energetic and playful.

Abnormal PE/Chem/CBC/UA Results: Last PE on 3/7/23 - epiphoria noted, otherwise normal. Occ scooting, pruritus noted by O at that time. Pre-op bloodwork 6/27/23 ALT 313 (12-118) \*\*Please see attached in link.

**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 prostate was uniform, measuring 1.94 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 left kidney measured 3.56 cm. The right kidney measured 3.81 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 right adrenal gland measured 0.32 cm at the cranial pole and 0.29 cm at the caudal pole. The left adrenal gland measured 0.34 cm at the cranial pole and 0.31 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** was slightly subnormal in size. Intrahepatic vascularity appeared of normal volume and contour. No evidence of portosystemic shunting. Vena cava to aorta ratio was 1:1 (0.5 cm each). The portal vein measured 0.5 cm. The gallbladder and common bile duct were unremarkable.

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

## SPECIES

Canine

## 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.

## BREED

Chihuahua

## ULTRASONOGRAPHIC FINDINGS

## SEX

- Structurally unremarkable abdomen
- Mild microhepatica- no evidence of extrahepatic shunting.

Male

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

## AGE

8 Months

Possibility of portal hypoplasia/microvascular dysplasia and/or reactive hepatopathy given the ALT elevation. FNA of the liver could be considered for further definition. I recommend bile acid profile to assess for portal hypoplasia.

## WEIGHT

5.3 Pounds

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, nutraceuticals (SAME, Actigall...), 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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## REFERRING VET

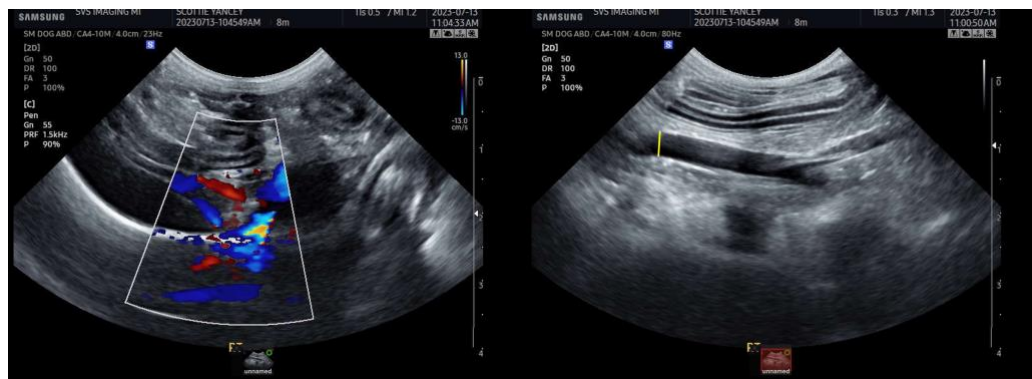
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com

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