

**PATIENT PRESENTING CLINICAL SIGNS**

Oscar Sachs Asymptomatic with mildly elevated liver enzymes. ALP 160, ALT 139.

**SPECIES**

Canine

**BREED**

Shih Tzu mix

**SEX**

Male, neutered

**AGE**

7/3/2014

**WEIGHT**

24.2 lbs.

**INTERPRETED BY**

Andrea Nicastro, DVM,  
Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**IMAGING PERFORMED BY**

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(Small Animal Internal  
Medicine)

**HOSPITAL NAME**

Flowerton AH

**REFERRING VET**

Dr. Randinelli

**INVOICE**

13748

**DATE**

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**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The prostate is normal in size (0.10 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal size (0.48 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. Trace pyelectasia is present. There is no evidence of nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney is normal size (4.69 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

*Adrenal Glands*

The left adrenal gland is upper limits of normal size (0.73 cm at cranial pole) (0.65 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is upper limits of normal size (0.64 cm at cranial pole) (0.63 cm at caudal pole) (1.87 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

*Spleen*

The spleen is normal in size (1.54 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A 1.34 x 0.91 cm ill-defined multi-septated cystic lesion is observed near the caudal aspect. Splenic vasculature is normal.

*Liver*

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The gallbladder is of normal contours and contains some dependent echogenic debris. The wall is normal in thickness. No choleliths are observed. The cystic and common bile ducts are normal.



**PATIENT**

***Gastrointestinal***

Oscar Sachs

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

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***Pancreas***

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

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***Free Abdomen***

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

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***Other***

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

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**ULTRASONOGRAPHIC FINDINGS**

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Andrea Nicastro, DVM,  
Diplomate ACVIM  
(*Small Animal Internal  
Medicine*)

**Primary Findings:**

- An obvious cause for the elevated liver enzymes is not identified in the study. However, a microscopic hepatopathy (i.e., bacterial cholangiohepatitis, Leptospirosis, chronic active hepatitis, copper-associated hepatotoxicity, reactive hepatopathy, infiltrative neoplasia (less likely)) should be considered.
- The cystic splenic lesion could be consistent with a benign process (i.e., cyst, hemangioma). Alternatively, an emerging tumor (i.e., hemangioma, hemangiosarcoma) is possible.

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**Secondary Findings:**

- Minor, age-related chronic renal changes.
- Gallbladder debris, non-mucocele.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Consider pre- and post-prandial serum bile acids to assess hepatic function. Also consider Leptospirosis testing (i.e., blood and urine PCR, serology), particularly if the clinical suspicion for disease is high. If an aggressive approach is desired, consider hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy). Surgical biopsies are more likely to yield a definitive diagnosis. If pursued, acquisition of additional hepatic tissue samples for potential copper quantitation as well as aerobic and anaerobic bile cultures are recommended. Thoracic radiographs and clotting times are recommended prior to any anesthetic/surgical procedure.



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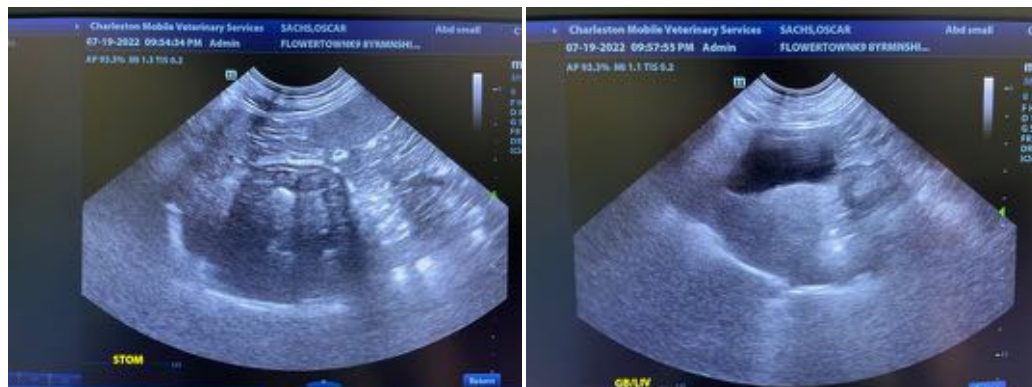
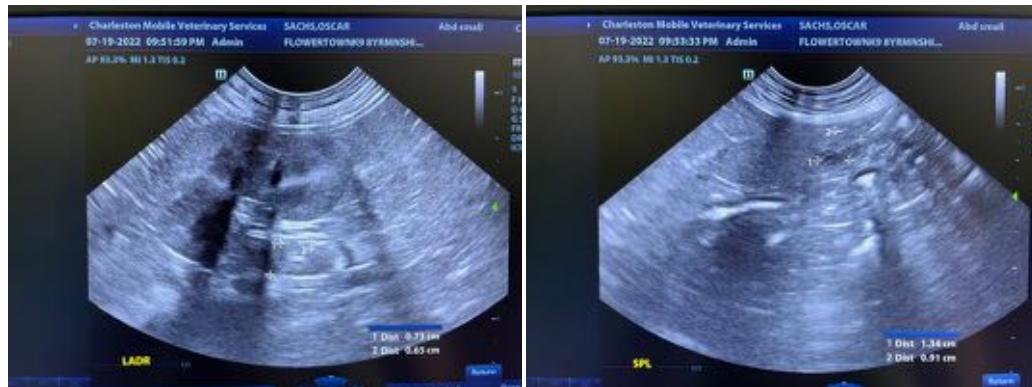
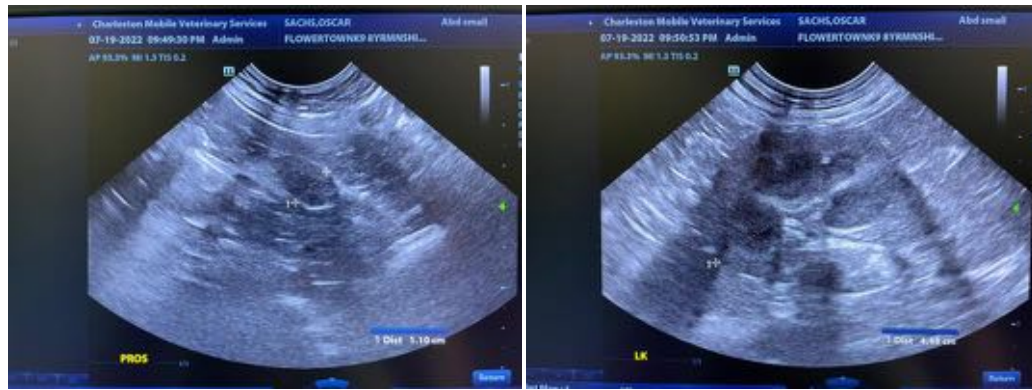
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- If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, Denamarin +/- metronidazole). If no improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.
- If no or minimal treatment (i.e., Denamarin) is pursued at this time, liver values should be rechecked in 4-6 weeks to assess for further increases.
- Regarding the splenic lesion, consider a recheck ultrasound in 3-4 weeks to assess for progression.





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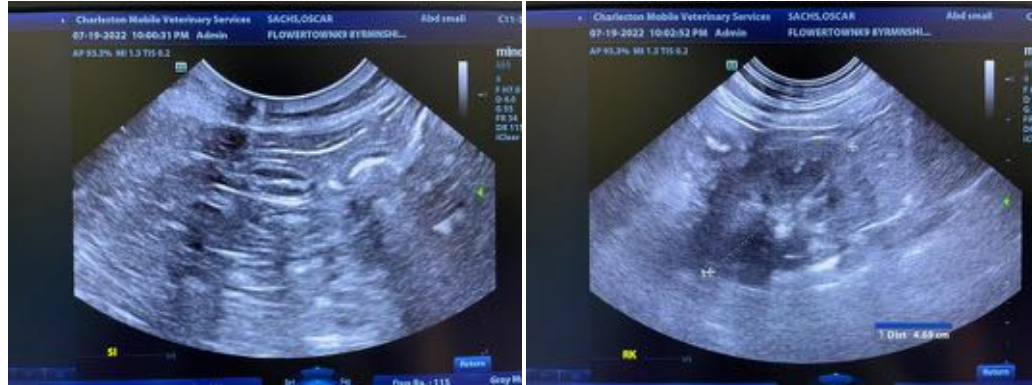
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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