



**PATIENT**

Sootie Zimmerman

**PRESENTING CLINICAL SIGNS**

Elevated liver values on pre-operative, ALT >ALP.  
ALT 876, ALP 615, bile acids normal.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED**

Rottweiler

**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 was noted. Ureteral papillae were normal.

**SEX**

Female

The uterus was uniform and measured 0.78 cm.

**AGE**

14 months

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 5.64 cm. The right kidney measured 6.77 cm.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Adrenal Glands**

The left **adrenal gland** was 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 2.77 x 0.77 cm. The right adrenal gland was not visualized owing to the demeanor of the patient.

**IMAGING PERFORMED BY**

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Franklin Lakes AH

**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 was noted.

**REFERRING VET**

Dr. Ward

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**Liver**

The **liver** was mildly swollen in contour with increased portal markings without evidence of masses. The gallbladder was slightly thickened with a minor amount of debris. The common bile duct was uneventful. Minor evidence of hepatic lymphadenopathy was noted with this presentation most consistent with chronic active hepatitis, which may be of current or past active state dependent on the enzymatic elevations which may vary depending on the moment of blood sampling. Ultrasound guided biopsy could be considered to further define these changes and rule out underlying copper storage disease and define cell type and structural changes with the liver and rule out underlying neoplasia which is not overtly suspected.

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

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**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**

Chronic active hepatopathy.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Full coagulation panel including Von Willebrand's is recommended in this patient. Leptospirosis titers are indicated. Either ultrasound-guided core liver biopsy could be performed or given that ovariohysterectomy is necessary a liver biopsy can be taken at that time with larger samples for quantitative copper analysis to rule out primary copper storage disease. Other underlying inciting issues should be considered in addition to Leptospirosis or primary copper storage such as toxin exposure.

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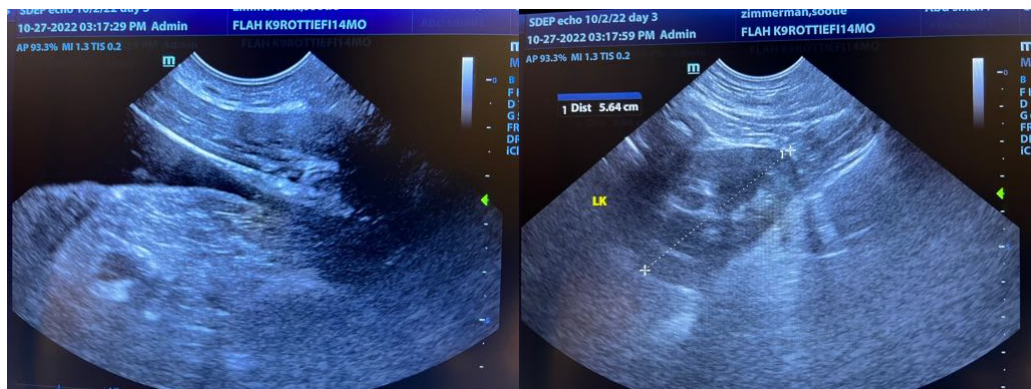
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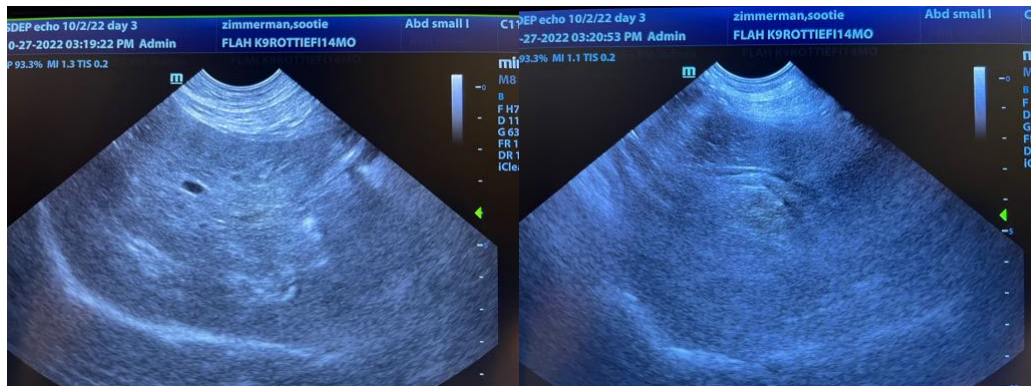
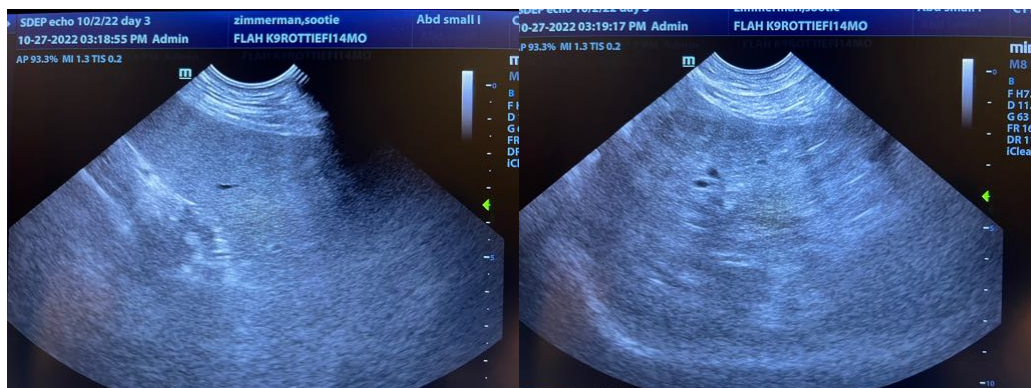
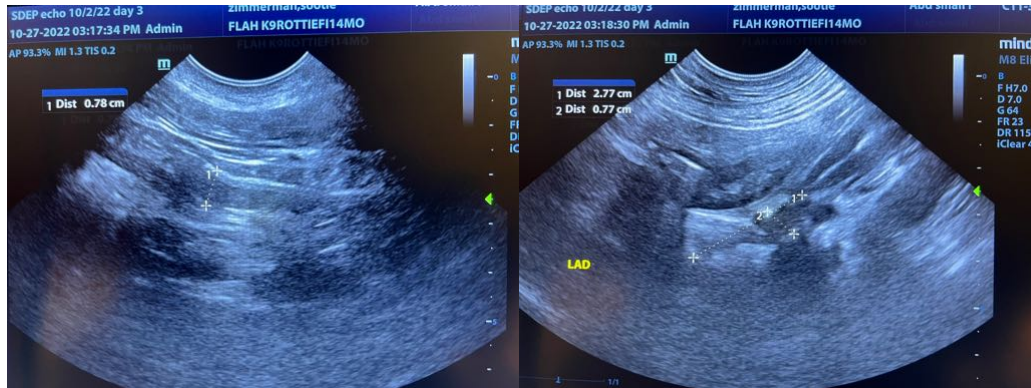
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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