



## PATIENT

Spike Chopp

## SPECIES

Canine

## BREED

Chihuahua Mix

## SEX

Neutered Male

## AGE

3 Years 7 Months

## WEIGHT

6.9 pounds

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Cassie Quillen DVM

## HOSPITAL NAME

Zumbrota Veterinary  
Clinic

## REFERRING VET

Cassie Quillen DVM

## INVOICE

15545

## DATE

04/28/26

## PRESENTING CLINICAL SIGNS

Presented from rDVM for abdominal ultrasound due to chronically elevated liver enzymes found on routine blood work. Adopted in 2023 with heartworm disease, which was treated then. No abnormal symptoms or PE findings noted. No improvement with Denamarin, mild improvement with hypoallergenic diet.

Abnormal PE/Chem/CBC/UA Results: Elevated ALT since 2025 (range 140-205) 1/27/26 - ALT 155; post bile acids 70.6 3/23/26 - post bile acids 57.1 Rest of blood work reportedly normal

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder**, trigone, and pelvic urethra to a depth of 2.0 cm 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 **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 3.03 cm in length. The right kidney measured 3.3 cm in length.

### 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 0.40 cm width. The right adrenal gland measured 0.47 cm width at the cranial pole and 0.36 cm width 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** revealed slight increased portal markings with normal size. As far as the vascularity visualized, the vena cava was approximately 0.50 cm. The termination of the portal vein appeared to be normal at 0.44 cm. This largely rules out macroscopic shunting. No evidence of intrahepatic shunting. The gallbladder and common bile duct were unremarkable.

### 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



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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.

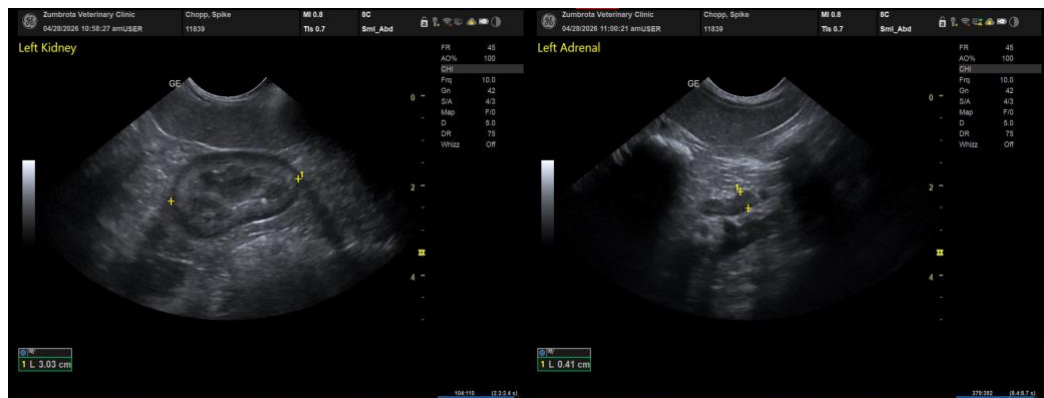
## ULTRASONOGRAPHIC FINDINGS

- Mild microhepatica with minor remodeling- nonspecific, portal hypoplasia/microvascular dysplasia is likely.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

### Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

**Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid)** over the next 14 days, **Lactulose (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base)** long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt or cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. **SAME** and nutraceuticals as needed. **Ursodiol (10-15 mg/kg p.o. q24h)** can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic. Liver biopsy would be best in this patient.





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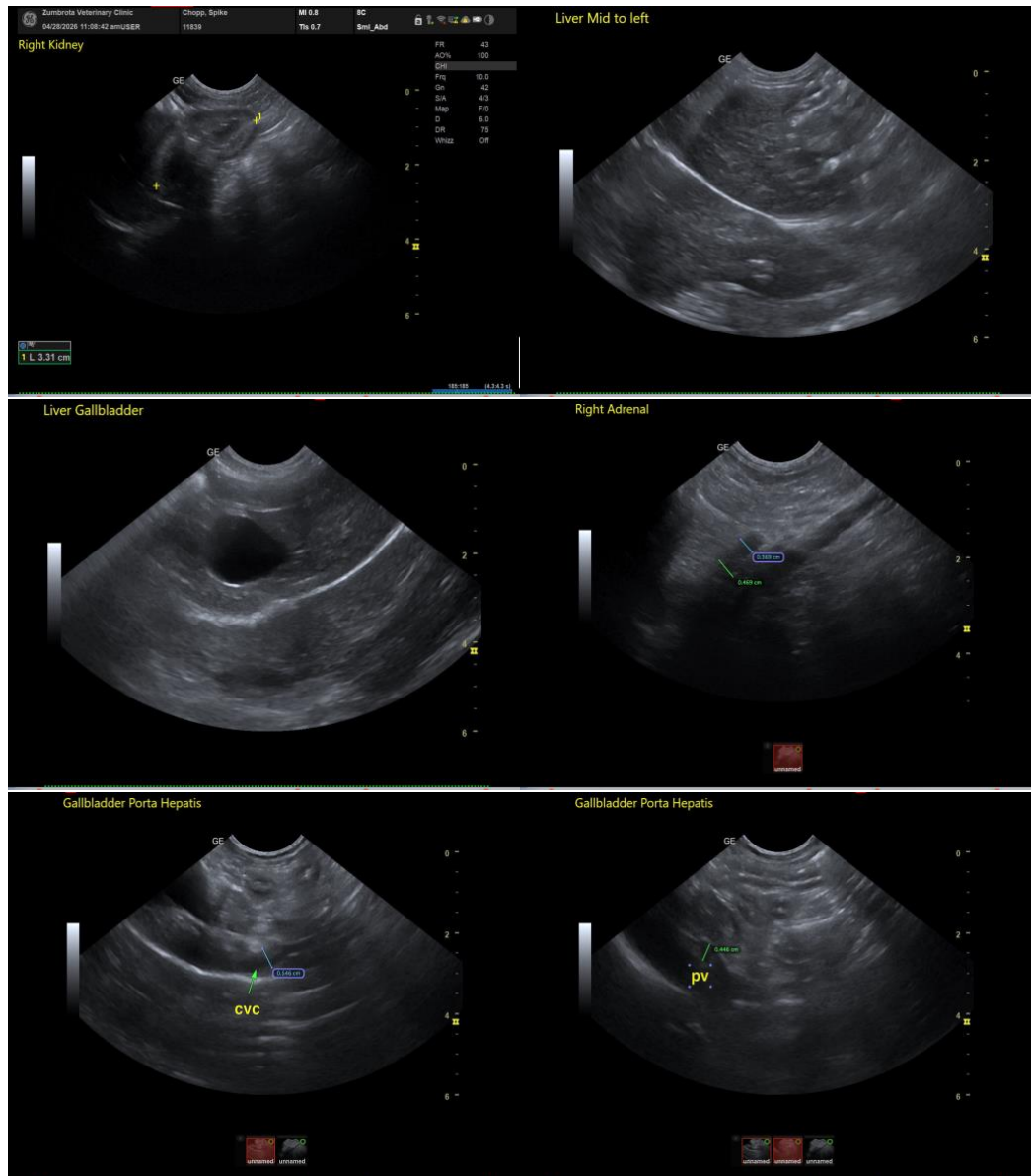
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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