



## PATIENT

Toby Nieves

## SPECIES

Canine

## BREED

Chihuahua

## SEX

Intact Male

## AGE

5 Years

## WEIGHT

3.4 lbs

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Gabriel Ferrer, DVM

## HOSPITAL NAME

Pulse: Pet Ultrasound  
Services

## REFERRING VET

Dr. Guzman

## INVOICE

74380

## DATE

4/10/26

## PRESENTING CLINICAL SIGNS

Px presented as a referral for an abdominal ultrasound due to Hx of elevated hepatic enzyme values, Pancreatitis, defecating with blood, and vomiting. Owner reports that Px gets better when taking Denamarin and is on a hepatic diet. Px visited rDVM 2 weeks ago due to Px presenting the previously mentioned symptoms, bloodwork showed an increase in the hepatic enzyme values and Bile Acids were also elevated (Pre - 24.7, Post - 41.5).

Abnormal PE/Chem/CBC/UA Results: Bloodwork and Bile Acids test attached below for your reference

## 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 **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. Left kidney measured 3.5 cm. Right kidney measured 3.0 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. Left measured 1.46 cm x 0.31 cm at the cranial pole and 0.36 cm at the caudal pole. Right measured 1.45 cm x 0.36 cm at the cranial pole and 0.34 cm at the caudal pole.

### Spleen

The **spleen** was folded upon itself caudally. It 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 mildly subnormal in size. The gallbladder and common bile duct were unremarkable. Portal vein measured 0.42 cm, vena cava measured 0.53 cm, aorta measured 0.56 cm. No evidence of intrahepatic or extrahepatic shunting.

### 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.

### **Free Abdomen**

An inguinal **lymph node** presented normal length to width ratio with slight, swollen contour, measuring 1.3 cm x 0.70 cm. There was no loss of parenchymal detail. This is most consistent with reactive lymphadenitis or lymphatic hyperplasia.

### **ULTRASONOGRAPHIC FINDINGS**

- Minor microhepatica without structural changes, likely reactive hepatopathy or low-grade inflammatory hepatopathy.
- Reactive inguinal lymph node.
- Folded spleen.

### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of portosystemic shunting. Portal hypoplasia/microvascular dysplasia is possible. Dietary management recommended. Part of the following protocol may be appropriate.

#### **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.





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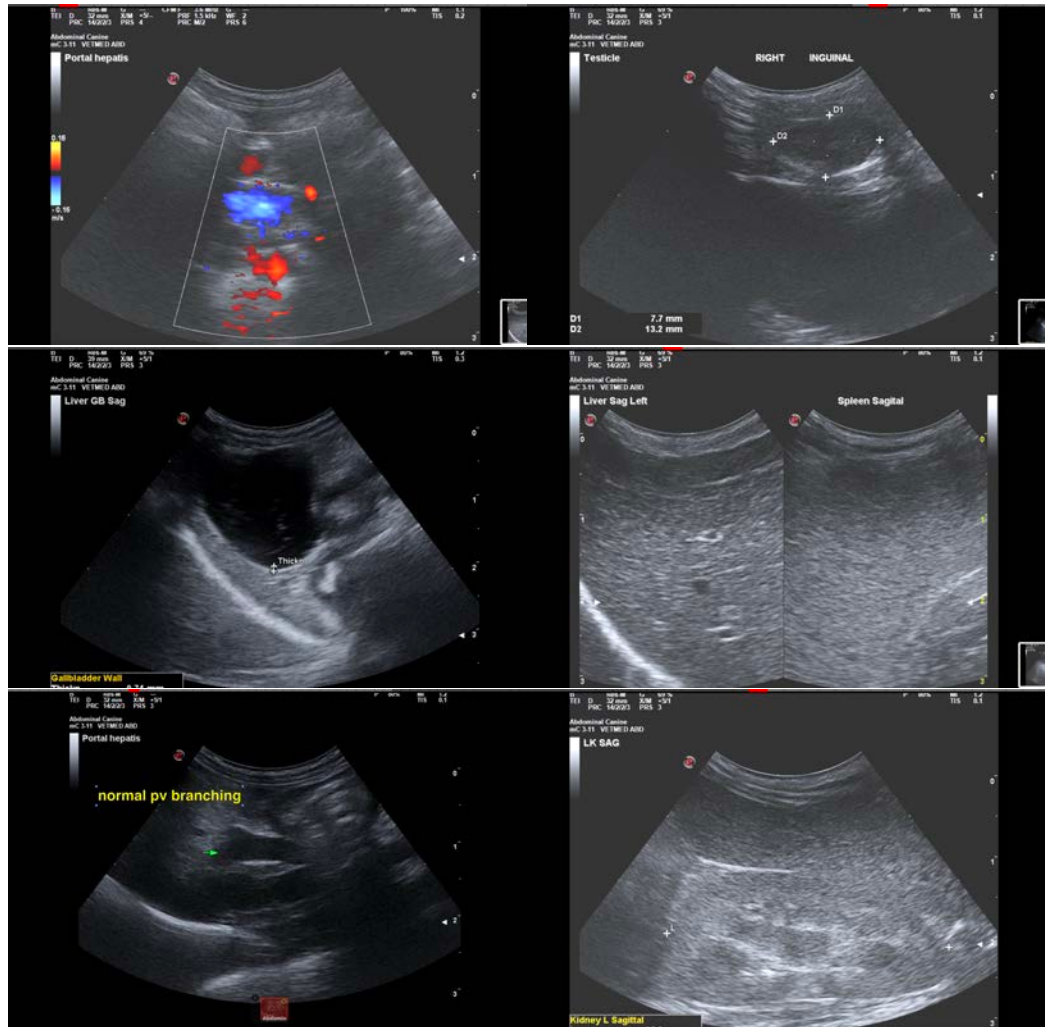
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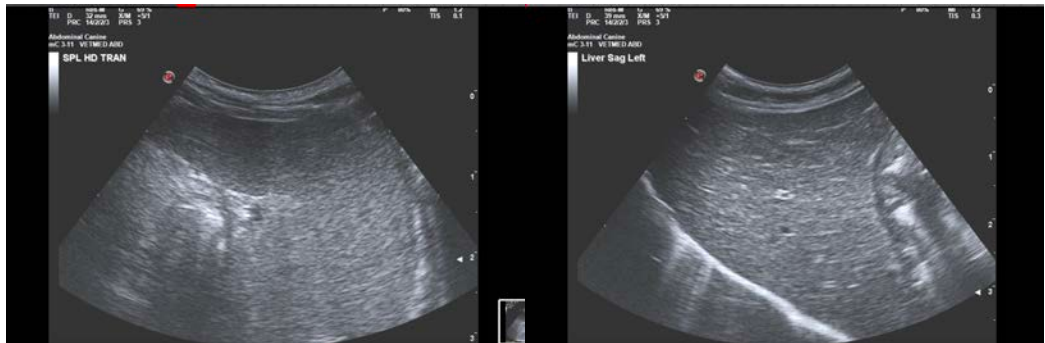
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP(CFM), Cert. IVUSS,  
CEO, Owner, Founder -- SonoPath.com  
[info@SonoPath.com](mailto:info@SonoPath.com)