



**PATIENT PRESENTING CLINICAL SIGNS**

**Sol Leiva** History: Walking into walls with head down. Has been going on for 3 days. Doing better, got O up early this AM. did vomit this AM. No diarrhea. Very nosey and will get into things, but O put things up.  
Meds: none Food L/D eats it sometimes did get other food with smaller bites.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED**

**Urinary System**

Chihuahua

The **urinary bladder** and visible pelvic urethra were unremarkable for the level of repletion presented. The urine, however, did present some mildly echogenic debris consistent with mucous, exfoliated cells from renal or bladder origin, and/or blood clots as these echogenic changes can all present similarly. This is often related to urinary tract infection but may represent simple evidence of exfoliated debris or sterile inflammation. Cystocentesis, urinalysis, +/- culture would be recommended to rule out and define any UTI.

**SEX**

Female

**AGE**

8 months

The **kidneys** were bilaterally swollen with corticomedullary calculi. Irregular contour was noted to both kidneys with loss of corticomedullary definition. The kidneys both measured 4.9 cm.

**WEIGHT**

10.2 lbs

**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.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Spleen**

**IMAGING PERFORMED BY**

Dr. Evoniuk

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.

**HOSPITAL NAME**

State Ave VC

**Liver**

**REFERRING VET**

Dr. Evoniuk

The **liver** revealed severe microhepatica with extrahepatic looping shunt that decoursed ventral caudal to the pyloric outflow and dorsally into the vena cava which demonstrates over circulation. The shunt contour would suggest extrahepatic portosystemic shunt with gastrocaval shunt. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal.

**INVOICE**

42767

**Gastrointestinal**

**DATE**

2/14/23

A minor amount of non-shadowing, non-obstructive ingesta was noted in the stomach. Transit of chyme into the small intestine was normal. Curvilinear patterns were maintained throughout the GI tract. No



**PATIENT**

Sol Leiva

evidence of pathology. 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**

Female

Extrahepatic looping shunt and severe microhepatica.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**AGE**

8 months

CT evaluation would be ideal for confirmation of a shunt. Medical management is warranted for stabilization followed by eventual surgical attenuation; however, portal hypertension may develop in this patient given the level of microhepatica.

**WEIGHT**

10.2 lbs

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

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**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.

**IMAGING PERFORMED BY**

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**PATIENT**

Sol Leiva

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Female

**AGE**

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**WEIGHT**

10.2 lbs

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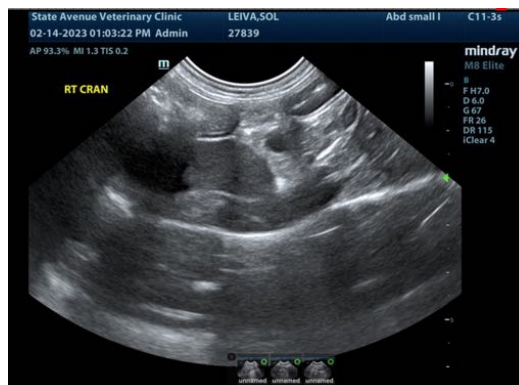
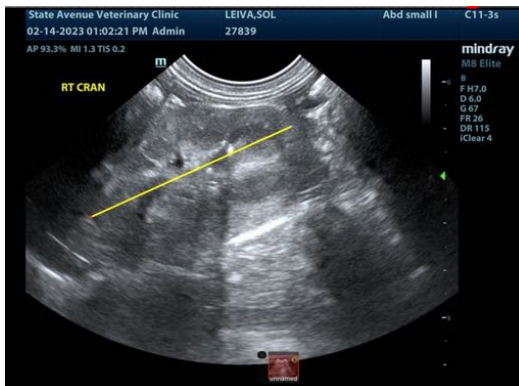
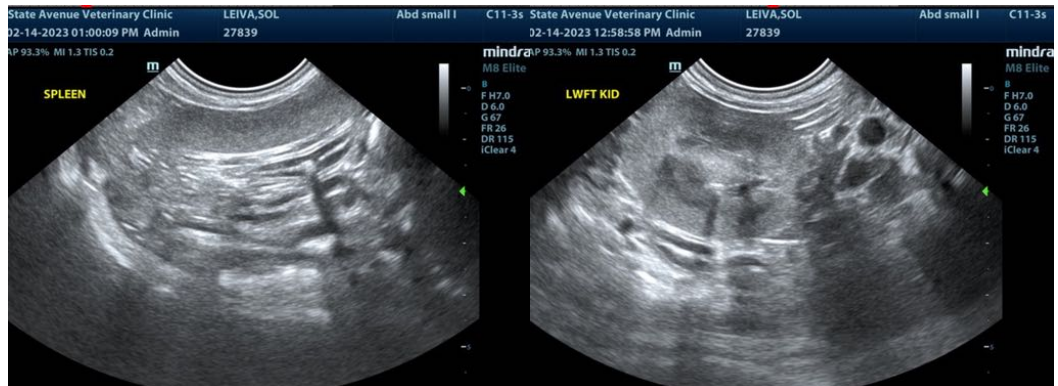
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, Cert. IVUSS, CEO of SonoPath.com**  
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