

PATIENT

Teddy Gongalski

SPECIES

Canine

BREED

Yorkshire Terrier

PRESENTING CLINICAL SIGNS

History: Bloodwork done in December showed a significantly elevated ALT, mild ALP elevation, and mild hypoalbuminemia. Patient was started on a hepatic support supplement and bloodwork was rechecked after a month. The recheck showed that liver values had returned to normal but blood protein levels appeared to be decreased. Owner is interested in neutering but wanted to check bile acids first. Bile acids were extremely elevated and a portosystemic shunt is highly suspected. The only symptom that the owner noted is that he is a very picky eater and they have to frequently offer new foods since he will only eat a new food for a few weeks and then refuses it. Owner has trouble keeping weight on him.

Abnormal PE/Chem/CBC/UA Results: Attached are the past bloodwork results.

SEX

Intact male

AGE

1 year

WEIGHT

3.06 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Sammy Burmeister

HOSPITAL NAME

Faith AC

REFERRING VET

Dr. Faith

INVOICE

42661

DATE

2/8/23

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 was noted. Ureteral papillae were normal.

The prostate was uniform and measured 1.6 cm.

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 3.0 cm. The right kidney measured 4.0 cm.

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 0.5 cm. The right adrenal gland was visualized obliquely and measured 0.4 cm.

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.

Liver

The **liver** was significantly subnormal in size. Slightly increased portal markings were noted in the liver. The gallbladder presented acceptably thin walls with primarily anechoic content. The portal vein was followed to the branching of the portal hilus. An irregular 0.4 cm tortuous vessel is present. I suspect



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portosystemic shunt. Power Doppler was utilized in the region, yet could not define direction. However, given the microhepatica and elevated bile acids extrahepatic portosystemic shunts are suspected. This is likely splenoazygos.

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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 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.

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1 year

ULTRASONOGRAPHIC FINDINGS

WEIGHT

3.06 lbs

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

CT evaluation is recommended for further definition.

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Eric Lindquist, DMV
DABVP, Cert. IVUSS

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.

IMAGING PERFORMED BY

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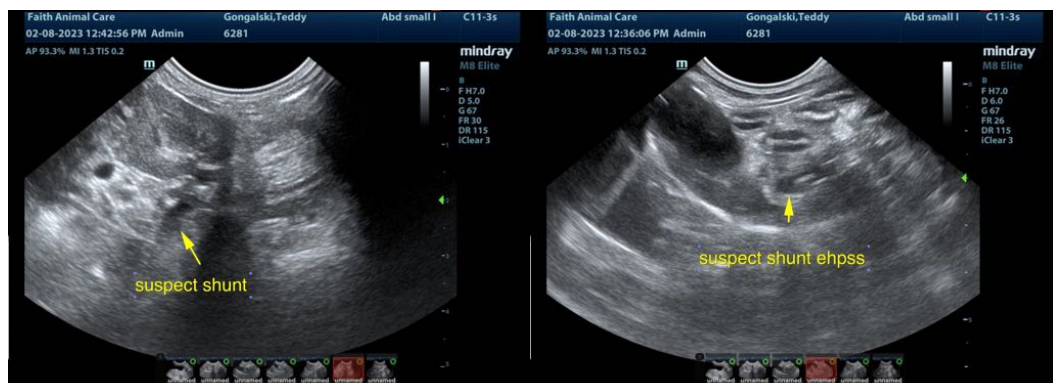
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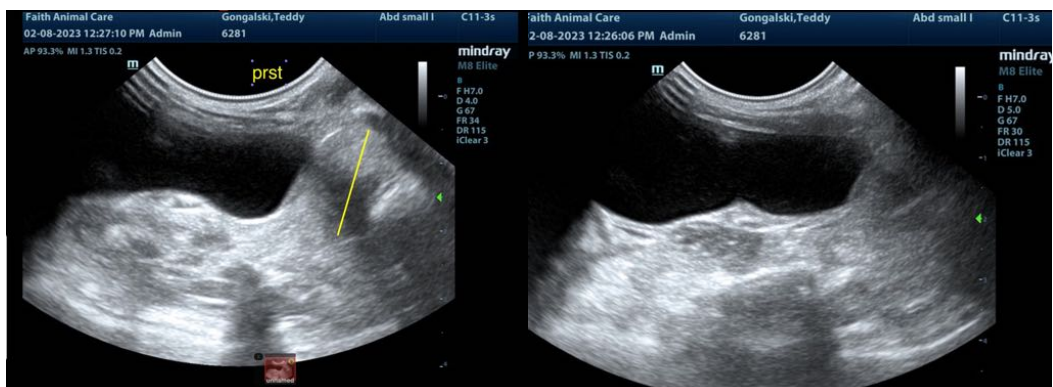
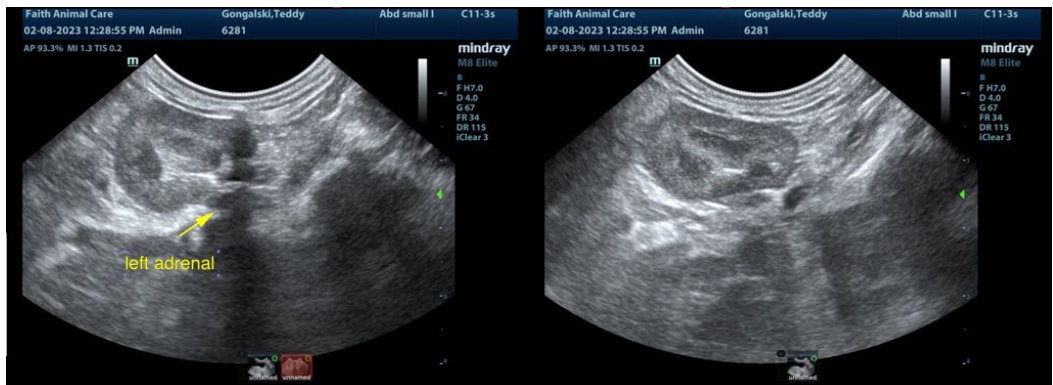
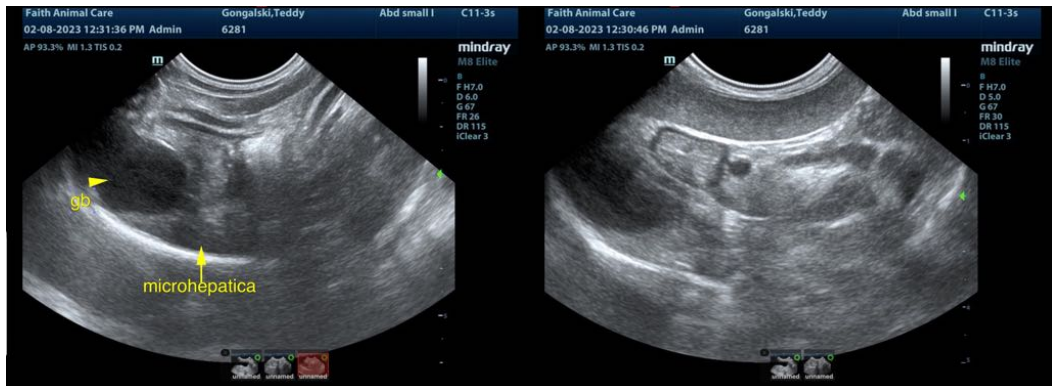
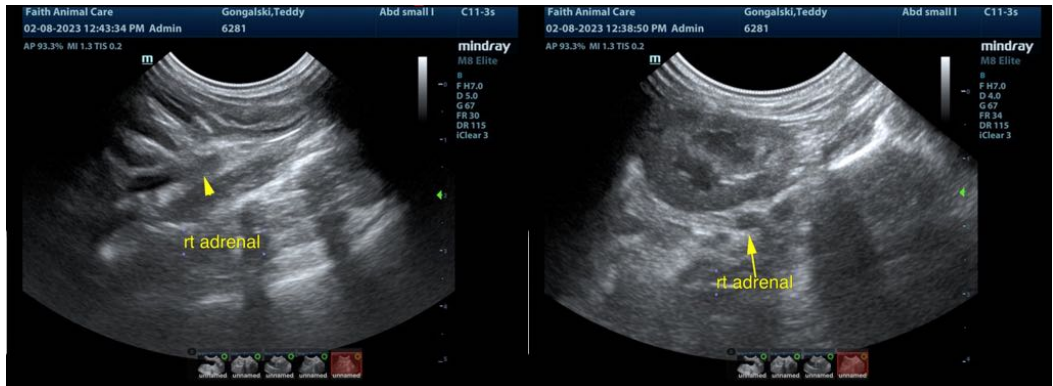
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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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Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com

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