

**DATE**

9/14/21

PRESENTING CLINICAL SIGNS

History: Was seen at ER 9/7 for episode of ataxia and vomiting. Was normal on presentation and exam. Exam was unremarkable. Radiographs reveal bladder stones and small liver. blood NH3 mildly elevated. Portosystemic shunt suspected.

PATIENT

Bo Shaak

Current Medications: Lactulose 5 ml every 8 hours, Provable.

Lab Results: NH3- 107 (0-98); bile acids attached separately.

Radiographs: Not provided by the veterinarian.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Dexdomitor/Butorphanol administered prior to scan.

Stat Report: STAT report not requested by the veterinarian.

SPECIES

Canine

BREED

Yorkshire Terrier

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The **urinary bladder** revealed a 2.2 cm solid, shadowing calculus. The bladder wall itself was unremarkable.

SEX

Neutered male

The right **kidney** measured 5.22 cm with slight pinpoint mineralization and slight loss of corticomedullary definition. The right kidney was relatively normal in size. The left kidney revealed a pelvic calculus. The left kidney measured 5.26 cm with loss of corticomedullary definition.

AGE

9/16

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 right adrenal gland measured 2.36 x 0.63 cm at the cranial pole and 0.5 cm at the caudal pole. The left adrenal gland measured 1.64 x 0.63 cm at the cranial pole and 0.51 cm at the caudal pole.

WEIGHT

15.2 lbs

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.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Liver

The **liver** is subnormal in size and diffusely hyperechoic to the falciform fat. The liver measured 1.52 cm in width. The gallbladder presented a minor amount of debris. The portal vein is exceedingly small. The portal vein at the portal hilus measured 0.25 cm and was subnormal in size. The vena cava measured 0.5 cm, aorta vein 0.5 cm and portal vein 0.25 cm. In one view dorsally directed an abnormal vessel appeared to be present and would follow a splenoazygos shunt potential. However, CT evaluation would be recommended for further definition.

HOSPITAL NAME

Fullerton AH

REFERRING VET

Dr. Baker

Gastrointestinal

Minor gastric wall thickening was noted. This is likely low-grade gastritis. 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.

INVOICE

91828

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

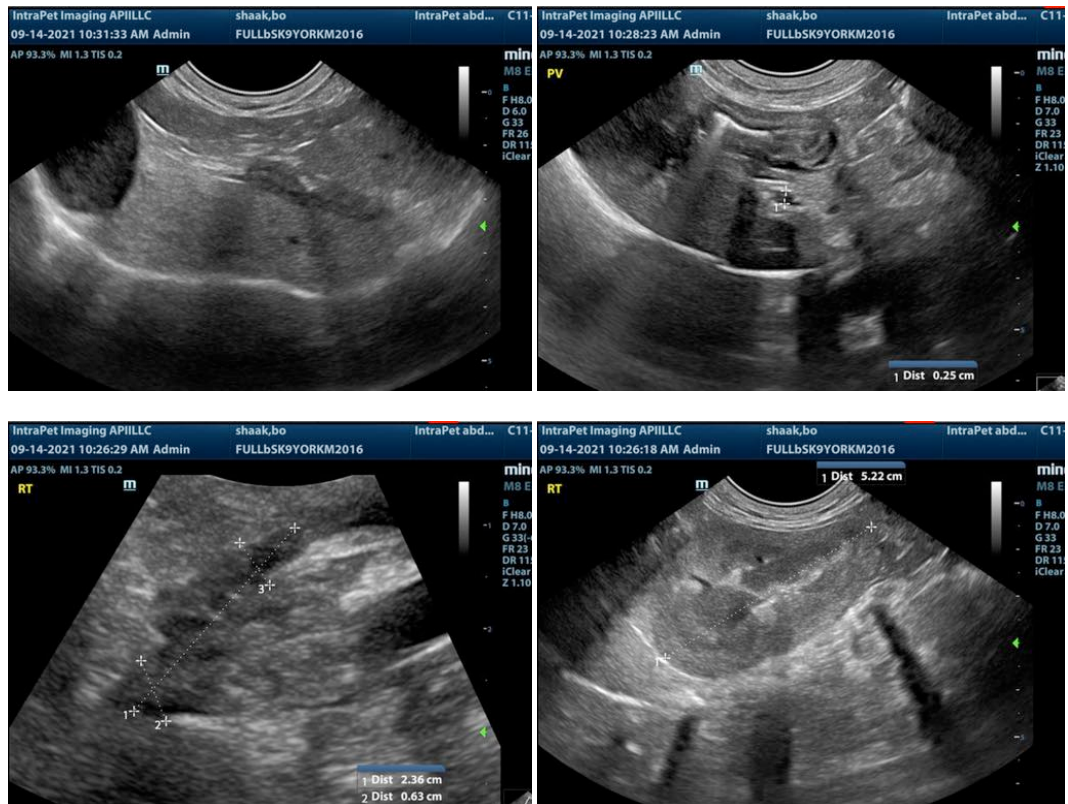
Bladder calculi.
Renal calculi and microhepatica.

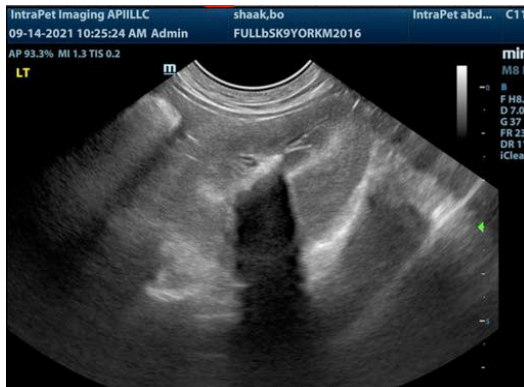
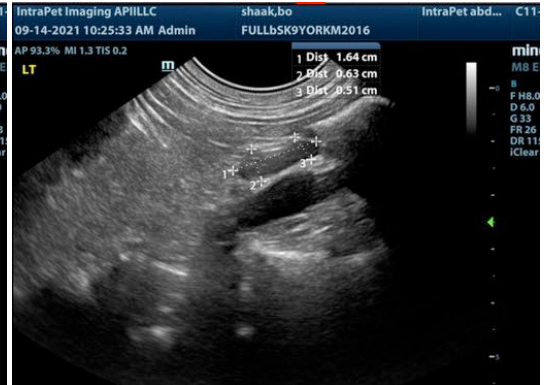
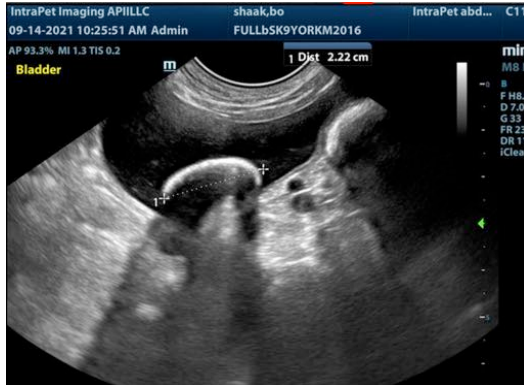
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

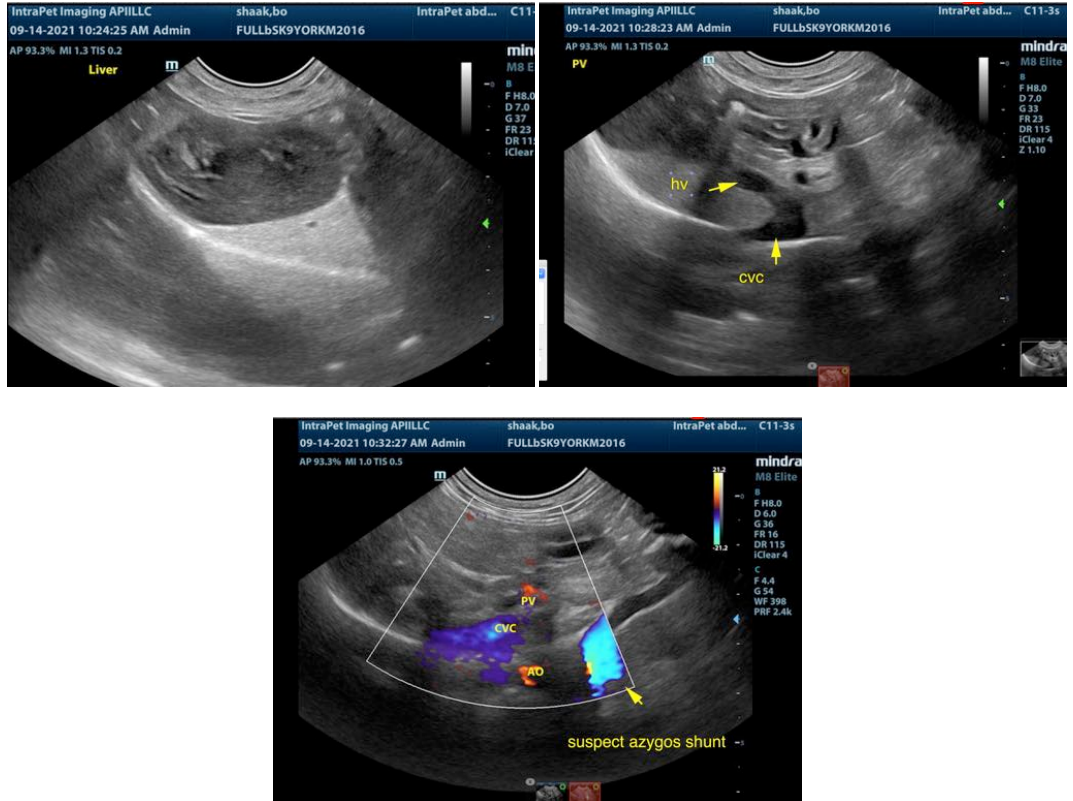
I suspect extrahepatic portosystemic shunt, likely azygos shunt; however, this should be confirmed with CT with contrast.

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.







The information and recommendations provided are based on the images presented by the referring veterinarian. 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
 Eric.Lindquist@SonoPath.com