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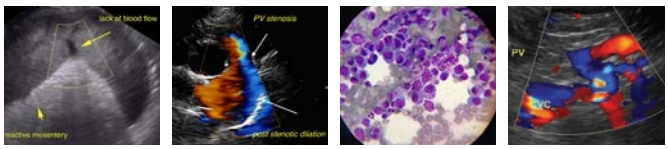
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Jake Murai

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

7 Years

WEIGHT

6.2 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Brita Kiffney

HOSPITAL NAME

Northshore Vet Hospital

REFERRING VET

Dr. Brita Kiffney

INVOICE

38198

DATE

6/2/22

PRESENTING CLINICAL SIGNS

occasional vomiting off an on. history of mild skin infections
Abnormal PE/Chem/CBC/UA Results: mild ALT / AST elevation , bile acids panel - moderate elevation, Lepto neg, protein C 135%, bile pre: 31 post 88 ALT 238 AST 70

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 pelvic urethra was imaged 3.0 cm beyond the cystourethral junction.

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 2.6 cm. The 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. The left adrenal gland measured 0.50 cm. The right adrenal gland measured 0.60 cm at the cranial pole and 0.40 cm 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** appeared slightly subnormal in size. Portal vein branching appeared to be normal, yet the vena cava was enlarged. However, no overt extrahepatic portosystemic shunts noted. The branching of the portal veins appeared to be normal. I'm presuming that this patient was sedated with Dexdomitor or similar, which alters the normal portal vein to vena cava ratio necessary to assess portosystemic 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 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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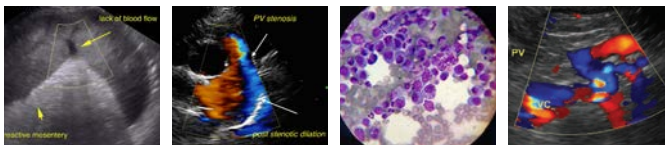

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Pancreas

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.

ULTRASONOGRAPHIC FINDINGS

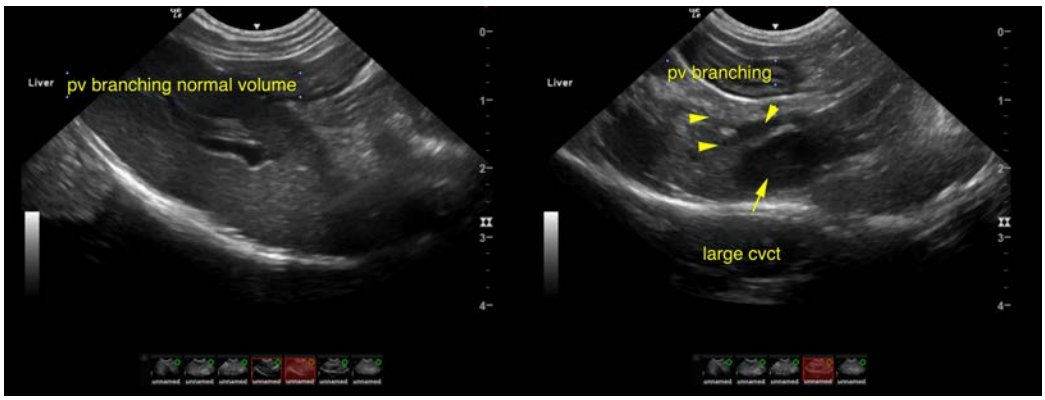
- Minor microhepatica, structurally unremarkable abdomen otherwise
- Dilated vena cava, possibly owing to sedation

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Further imaging necessary to completely rule out portosystemic shunting. However, recommend reimaging SDEP 9-14 without Dexdomitor, utilizing Propofol or Ketamine/Valium combination, which does not tend to alter the vena cava volume. Portal vein hypoplasia/microvascular dysplasia likely, given the patient history and breed, with concurrent inflammatory hepatopathy. Liver biopsy would be necessary for further definition. Given that no other global parameters of portosystemic shunting are present such as bladder calculi or renal calculi, I doubt macroscopic shunting is an issue in this patient.

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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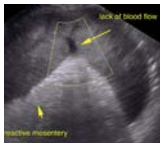
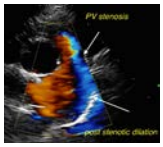
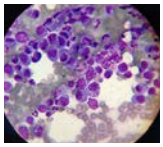
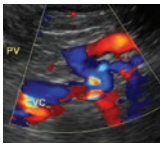

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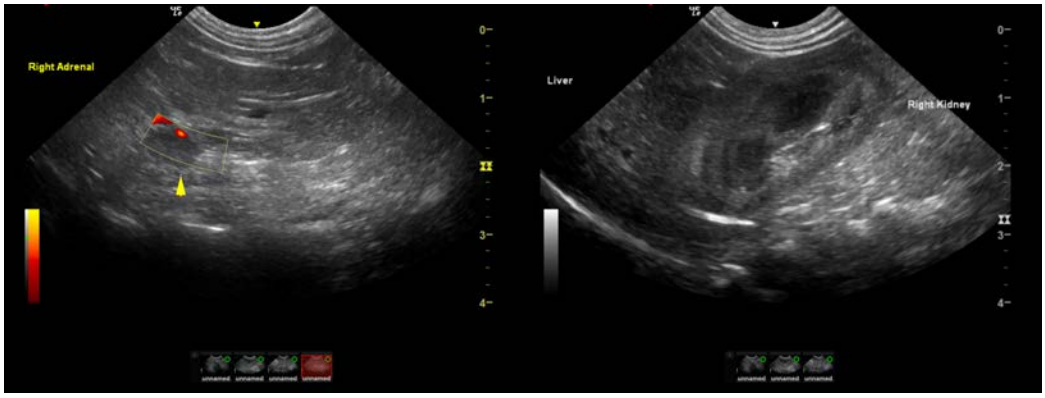

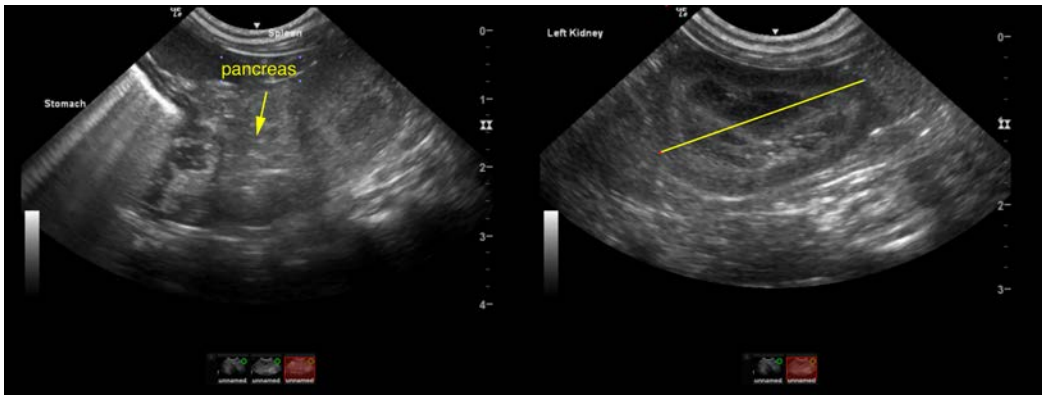

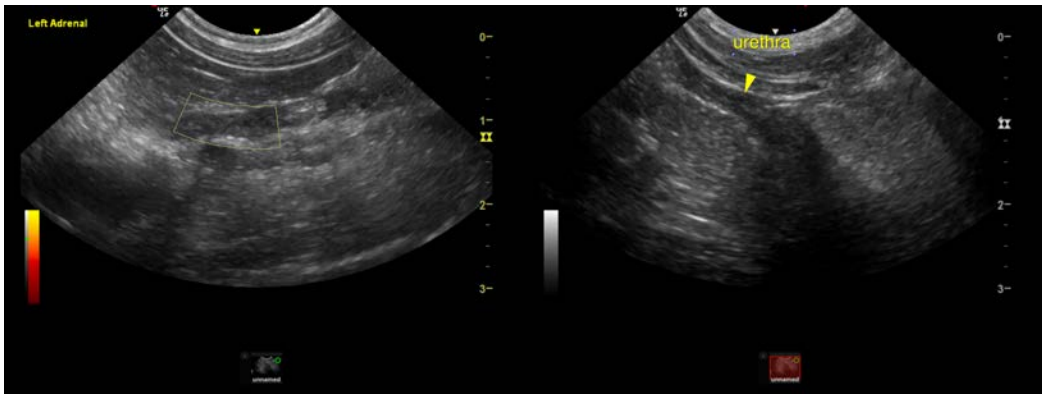

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

info@SonoPath.com