



PATIENT PRESENTING CLINICAL SIGNS

Ace Perez Ammonium biurate crystals in urine. Normal Liver enzymes but has elevated bile acids. Pre-prandial BA

SPECIES Abnormal PE/Chem/CBC/UA Results: Preprandial BA 36, Postprandial BA 157

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

BREED *Urinary System*

Cavapoo The **urinary bladder** presented calculi, a grouping of which measured 1.7 cm. Minor apical bladder wall thickening noted. Consistent with cystitis. Minor amount of urine repletion noted at the time of the sonogram. The pelvic urethra was imaged 3.0 cm beyond the cystourethral junction.

SEX

Neutered Male

The residual prostate measured 0.68 cm.

AGE

4 Years

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 right kidney measured 4.39 cm. The left kidney measured 4.46 cm.

WEIGHT

N/A

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 1.59 cm x 0.48 cm at the caudal pole and 1.02 cm at the cranial pole. The left adrenal gland measured 1.53 cm x 0.44 cm at the cranial pole and 0.33 cm at the caudal pole.

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

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.

IMAGING PERFORMED BY

Val Shumskaya

HOSPITAL NAME

Englewood Vet Center

Liver

The **liver** was subnormal in size. The gallbladder and common bile duct were unremarkable. Portal vein to vena cava ratio was abnormal. Vena cava appeared enlarged at 0.83 cm. Aorta measured 0.76 cm. Portal vein measured 0.60 cm. Branching of the portal vein appeared subjectively normal. However, I cannot rule out the presence of a portosystemic shunt.

REFERRING VET

Dr. Ezik

INVOICE

44400

DATE

1/20/23

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.

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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ULTRASONOGRAPHIC FINDINGS

- Minor bladder calculi and mild bladder thickening
- Subnormal liver size with abnormal portal vein to vena cava ratio

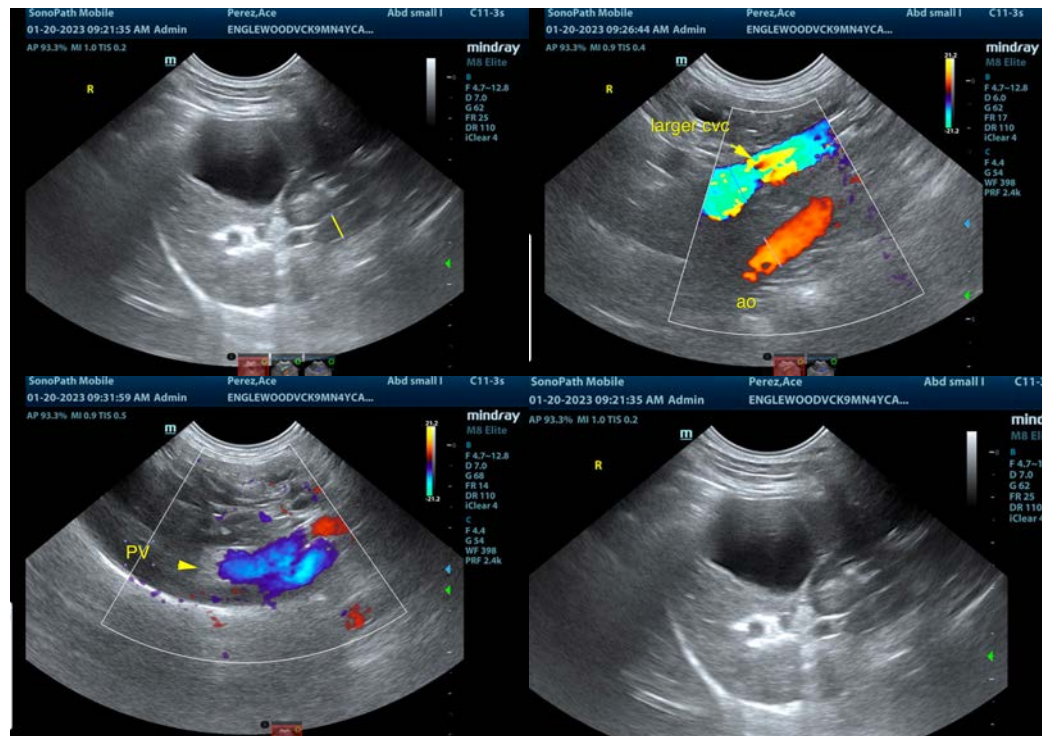
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Splenoazygos shunt is a potential as well as splenocaval shunt, yet not visualized. Recommend CT with contrast. Portal hypoplasia or azygos shunt may be playing a role. Further ultrasound imaging could also be considered under full sedation at the time of CT procedure.

SonoPath CT Services are offered at the SonoPath Imaging and Veterinary Education Center, 141 Main St (rt 206), Andover, New Jersey, a 20-minute drive west on route 80/206 North from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at <https://sonopath.com/services/sonopath-ct-services>

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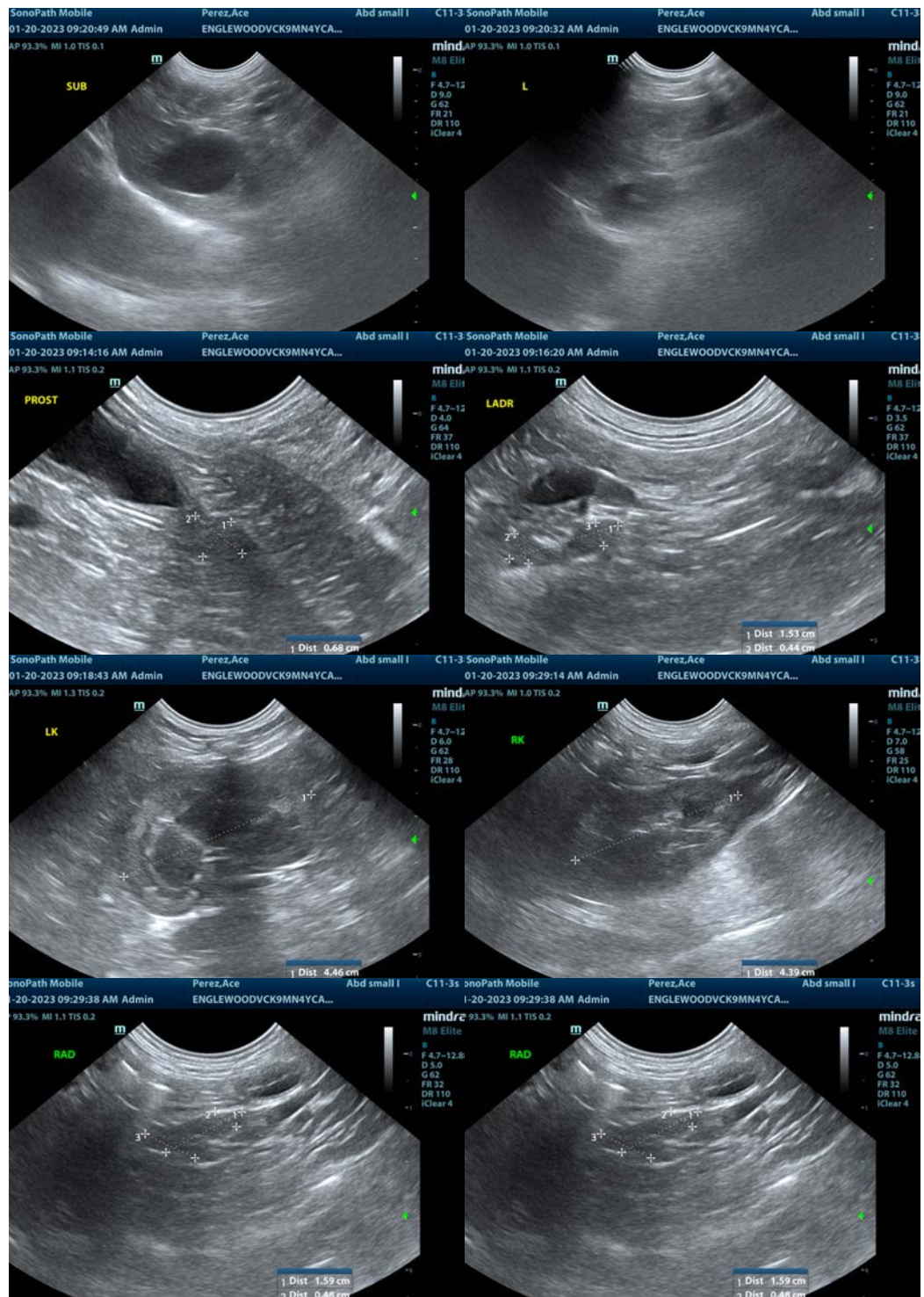
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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