



PATIENT

Pepper Coffin

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Spayed Female

AGE

4 years

WEIGHT

8.6 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Ebersole

HOSPITAL NAME

Scanvet

REFERRING VET

Dr. Kaltsas Dr. Bailey

INVOICE

30208

DATE

5/9/22

PRESENTING CLINICAL SIGNS

History: Uroliths in bladder, increased ALT and ALP found on BW. Pre and Post BA done, very elevated.

Abnormal PE/Chem/CBC/UA Results: BW: ALT and ALP elevated. Pre BA: 60, Post BA 225.

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. At least two calculi were noted and measured up to 1.0 cm and were non-obstructive. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed normal 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. Corticomedullary mineralization was noted. A 0.3 cm corticomedullary cyst was noted. The right kidney measured 4.68 cm and is slightly swollen. The left kidney measured 4.69 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 right adrenal gland measured 0.95 cm at the cranial pole and 0.58 cm at the caudal pole. The left adrenal gland measured 0.45 cm at the caudal pole and 0.43 cm at the cranial 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 was noted.

Liver

The **liver** revealed an extrahepatic splenocaval shunt was noted in this patient and measured 0.6 cm at maximum width. The portal vein prior to the shunt measured 0.48 cm and after the shunt measured 0.24 cm. The shunt was displaced dorsally and appeared to bypass the vena cava. This likely finalizes in the azygos as the vena cava to aortic ratio was 1:1. The vena cava measured 0.62 cm, aorta measured 0.6 cm. Hypovolemic parenchyma was present. Severe microhepatica was present. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal.



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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.

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.

Splenoazygos shunt.

Severe microhepatica.

Non-obstructive renal calculi.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Medical management with the following is recommended with surgical consultation for ameroid constrictor placement, cystotomy and liver biopsy. However, the surgeon and/or managing intern should be prepared for the potential of portal hypertension as portal hypertension post attenuation of the shunt as significant microhepatica is present. Double aorta signs was noted and is consistent with splenoazygos shunt. Propofol and Isoflurane is recommended for anesthesia to avoid hepatic metabolism.

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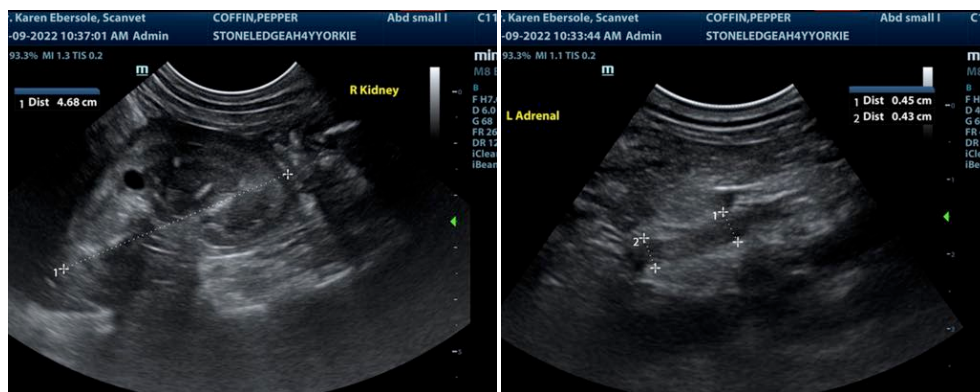
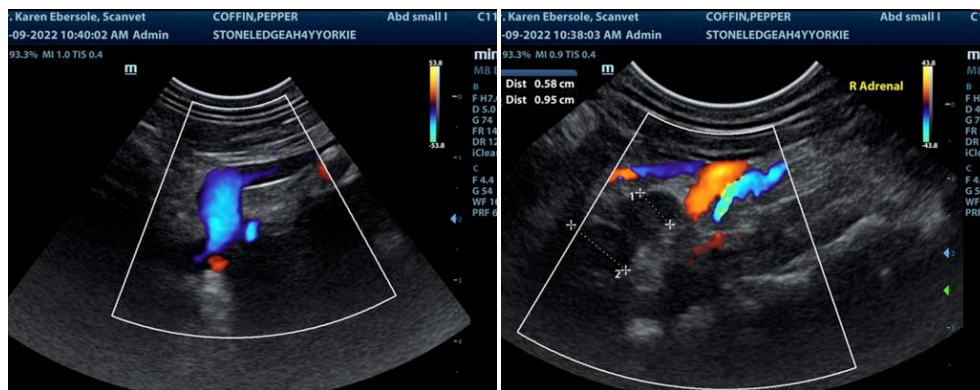
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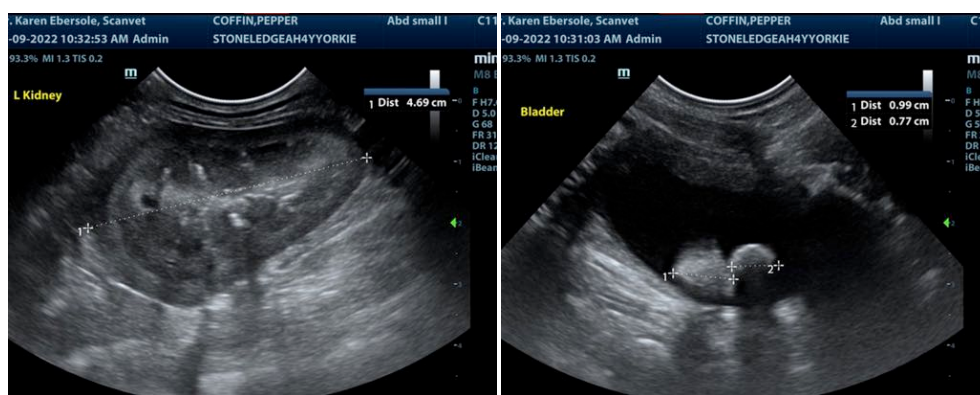
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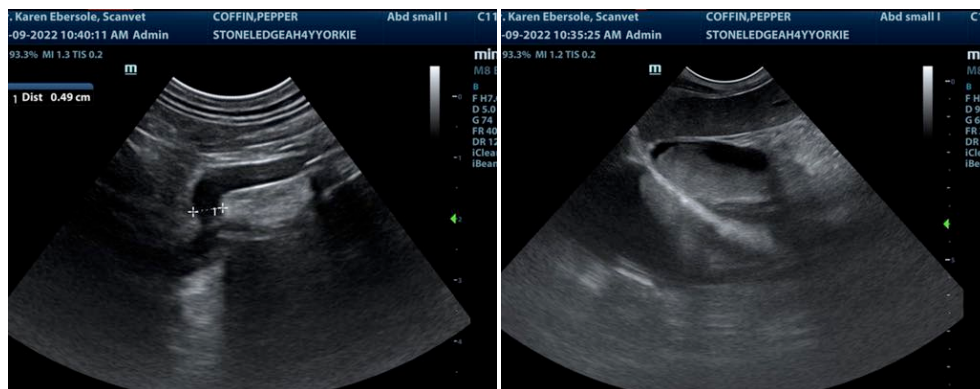
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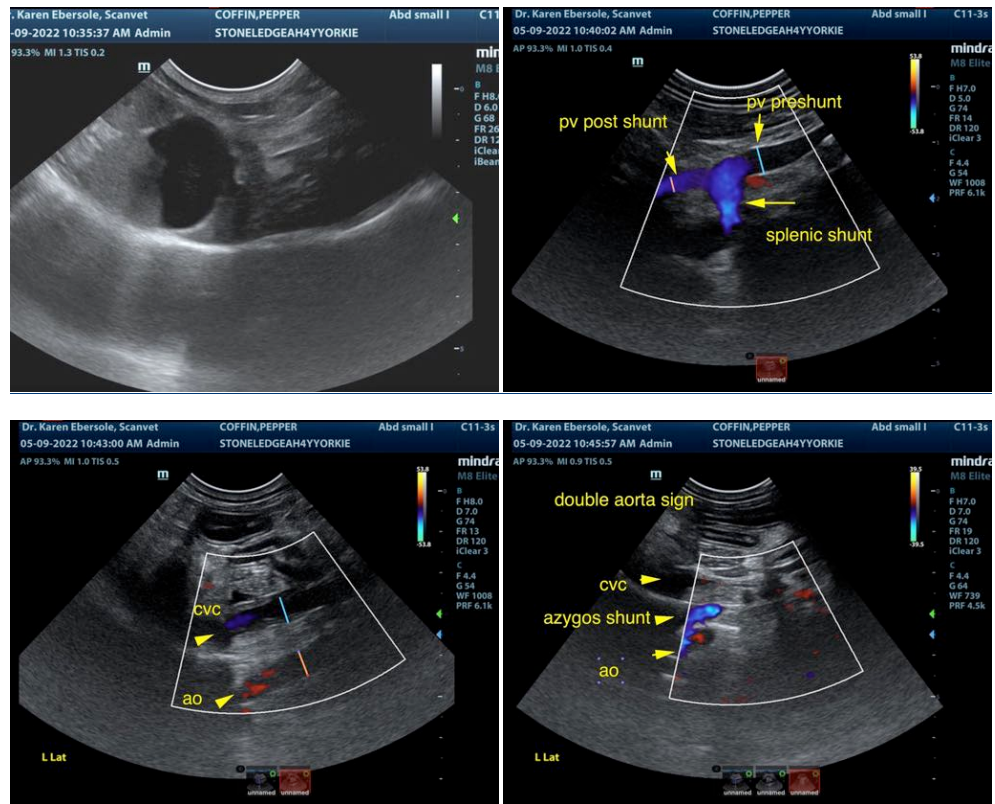
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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