



PATIENT

Bonnie Yakaboski

SPECIES

Canine

BREED

English Pointer

SEX

Spayed female

AGE

6 years

WEIGHT

47 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi CVT

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Harris

INVOICE

46700

DATE

8/22/23

PRESENTING CLINICAL SIGNS

History: Anorexia, V+, bloody diarrhea. No current meds.

Abnormal PE/Chem/CBC/UA Results: CPL severely abnormal. Bun 46.5; Creat 2; Phos 10.3; Glucose 146; chol 348; ALP 263; Tbili 1.1; RBC 9.38; HCT 67

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 **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 5.5 cm. The right kidney measured

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 2.6 x 1.02 cm at the cranial pole and 0.73 cm at the caudal pole. The left adrenal gland measured 2.31 x 0.64 cm at the cranial pole and 0.74 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 was noted.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.



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Gastrointestinal

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The **stomach** had a mild amount of fluid accumulation. The distal small intestine was variably dilated with reactive surrounding mesentery that extended to the pancreas. Linear structures were noted in various parts of the intestinal dilation and was followed by empty small intestine creating an obstructive pattern. However, serpentine changes of the intestine were mild. A slight pyloric structure was noted. This may represent a small anchor. However, this cannot be differentiated from chyme material.

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Portions of the intestine were particularly thickened, which is suggestive for some level of chronicity with echogenic mucosa. The cecum was also dilated and the bowel was spastic. The mesenteric lymph nodes were reactive and measured up to 1.5 x 1.0 cm.

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Pancreas

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Secondary **pancreatitis** is present, yet minor from a sonographic standpoint.

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Free Abdomen

No free fluid was noted at the time of the sonogram.

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ULTRASONOGRAPHIC FINDINGS

Distal small intestinal dilation and obstructive pattern with linear material and reactive mesentery.

Concurrent Typhlitis is likely.

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Secondary pancreatitis is likely, yet minor.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Enter typhlitis with a partial obstructive pattern and linear material. This is not a typical obstructive pattern. I recommend a fecal test in this patient to ensure that worm burden is not present, which can cause the linear pattern noted in portions of the intestine as well as the chronic changes in the mucosa and can cause obstructive patterns owing to dysfunctional bowel. If no evidence of worm burden is present on fecal testing then exploratory surgery would be indicated with the objective to assess the pylorus and distal small intestine and obtain biopsies. Mural intestinal culture may be appropriate as well. IV fluid support is warranted to treat the azotemia. The azotemia is likely pre-renal in this patient. I recommend reassessing the bilirubin to ensure it is not artifactual as it cannot be justified from structural standpoint. Leptospirosis titers can be considered as well as comorbidities may be in play in this patient. IV fluid support, plasma expansion, broad spectrum antibiotics for treatment of enterotoxins are indicated. If fecal test supports worm burden then treatment for roundworms would be indicated and medical management with a recheck sonogram in 24-48 hours. If fecal test is negative then exploratory surgery would be indicated with the objective of exploring the pylorus and distal small intestine as well as obtaining GI biopsies. The primary pathology is intestinal. Obstructive patterns can be caused by multiple issues including foreign bodies, focal dysfunctional bowel, worm burden, intestinal necrosis and neoplasia. However, no neoplastic criteria was noted in the gastrointestinal tract.

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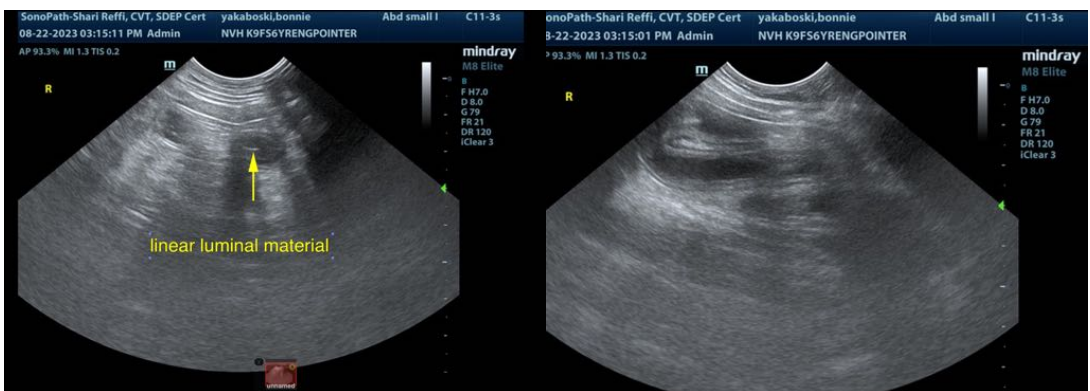
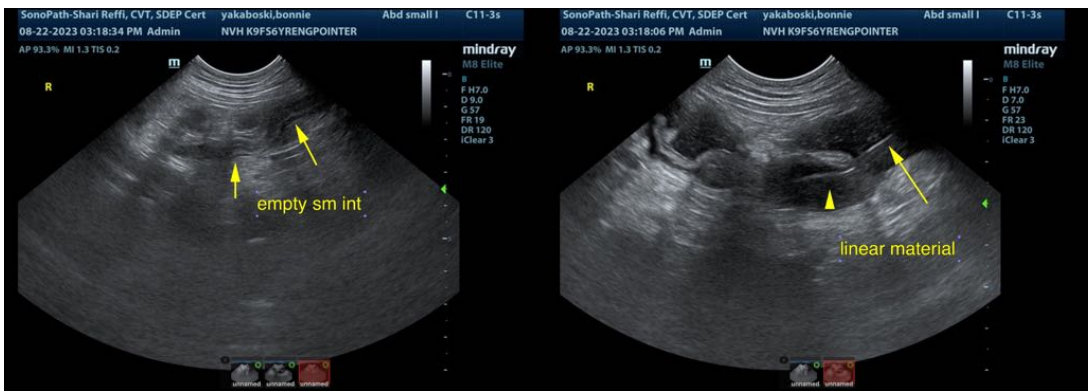
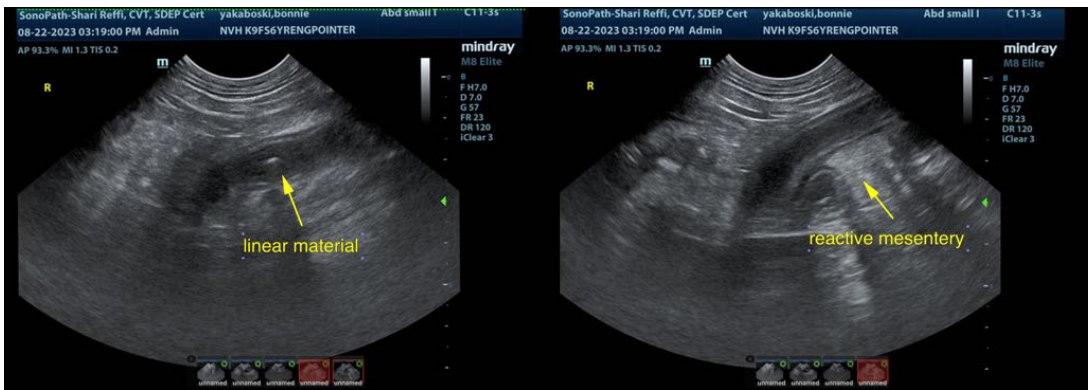
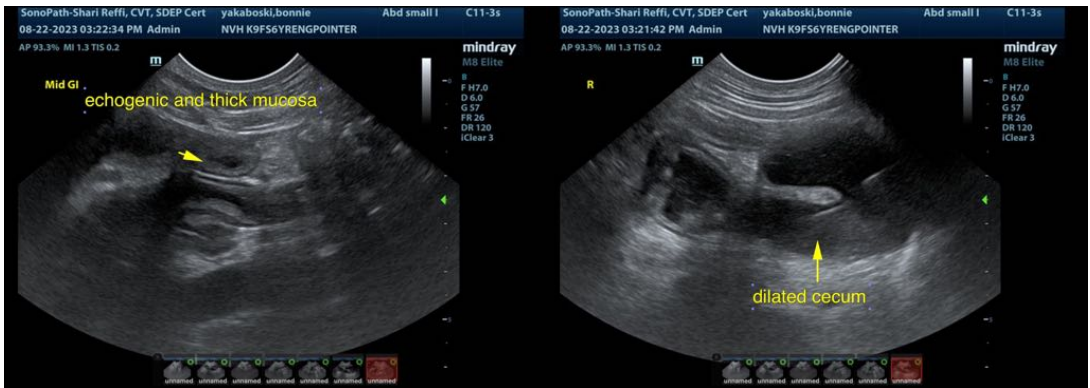
Dr. Harris

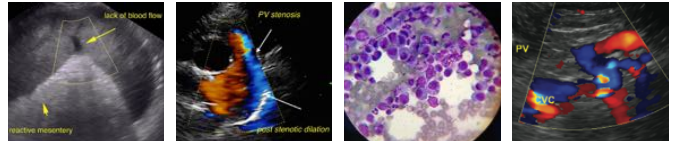
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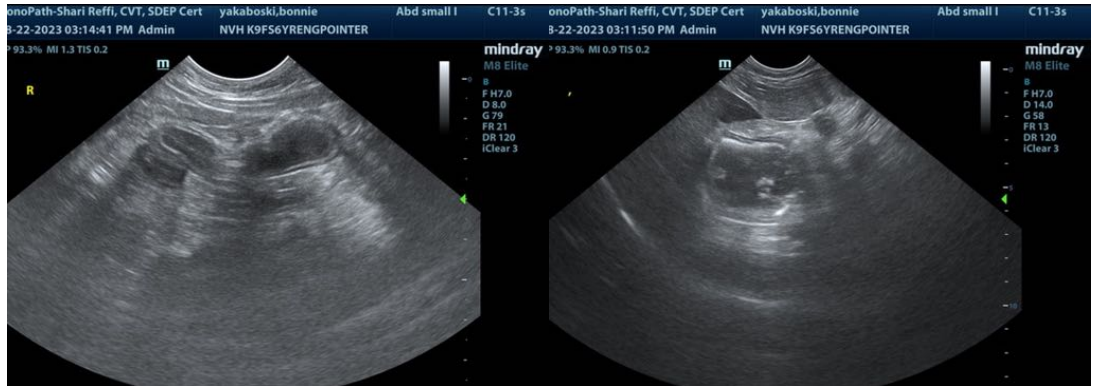
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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