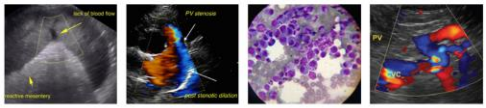


PATIENT

Noah Cardella

SPECIES

Canine

BREED

Puggle

SEX

MN

AGE

13yr

WEIGHT

30lb

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

VCA Hanson

REFERRING VET

Dr. Jewett

INVOICE

13566ag

DATE

04/24/2023

PRESENTING CLINICAL SIGNS

Two week history of lethargy and decreased appetite. PE: most significant finding: tense abdomen, unable to thoroughly palpate. Significant elevations in globulin (4.9), AST (97), ALP (3,458), and SDMA (20.6). ALT (638).

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.6 cm in length. The right kidney measured 5.2 cm in length.

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of pathology.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.62 cm width at the caudal pole and 0.53 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.53 cm width at the caudal pole.

Spleen

The spleen exhibited mild variable enlargement with areas of capsule asymmetry. Non-homogenous parenchyma exhibiting discrete hypoechoic nodules as well as diffuse pinpoint hyperechoic parenchyma foci which may indicate areas of microinfarction, fibrosis or mineralization were present. An example of a splenic nodule measured 1.0 cm in diameter.

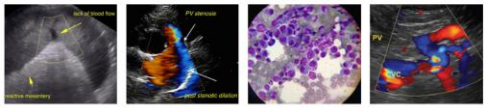
Liver/Gallbladder

The liver exhibited variable enlargement with lobar swelling and symmetrical to rounded capsule contour. Generalized non-homogenous to non-uniform parenchyma with moderate coarse echotexture was present. Indistinct portal vascular borders were present with normal hepatic vascular volume. No evidence of hepatic masses. The gallbladder was non-distended in size with hyperechoic to thickened walls. Moderate non-dependent organized hyperechoic debris in indistinct stellate pattern was noted. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach exhibited mild gas distention with no signs of ileus, obstruction or foreign material.

The small intestine presented generalized intact wall layering with 1:3 muscularis/mucosa ratio. Borderline prominent duodenum wall was present. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.



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Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

Mild regional perihepatic hyperechoic omentum was present. No peritoneal effusion was present.

Several mildly prominent mid abdominal mesenteric lymph nodes were present. These lymph nodes were homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was present. An example of lymph node size was 1.1 cm x 0.52 cm.

ULTRASONOGRAPHIC FINDINGS

- Enlarged homogenous liver-nonspecific, vacuolar hepatopathy, inflammatory/immune mediated disease, hematopoiesis, hyperplasia, infiltrative neoplasia or other hepatopathy possible.
- Splenomegaly with non-homogenous irregular/nodule parenchyma with pinpoint hyperechoic foci-hyperplasia, hematopoiesis, splenitis, infiltrative neoplasia all potentials.
- Mild chronic renal changes.
- Overtly normal GI tract, potential for minor duodenitis.
- Mild pancreatic remodeling- patient/ age related variant, remodeling owing to previous inflammatory episode or mild to chronic pancreatitis possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assuming normal clotting status and using a 25g needle, a hepatosplenic FNA for screening cytology is warranted for further assessment. Concern for gallbladder mucocele is warranted although clinical significance of the gallbladder mucocele at this stage is unclear given the lack peripheral gallbladder inflammatory criteria or effusion.

If no evidence of hepatosplenic neoplastic criteria, and no evidence of pathology on three view radiographs, hepatic surgical biopsy with cholecystectomy could be considered.

Some or all of the following protocol with as needed GI support would be a more conservative approach.

Enrofloxacin 5 mg/kg SID PO & Metronidazole (10-20 mg/kg po bid) over 3 weeks, Ursodiol (10-15 mg/kg p.o. q24h) over 8 weeks and recheck sonogram. Monitor rapid rise in ALT, SAP, Bilirubin, bilirubinuria, leukocytosis, focal cranial abdominal subxiphoid discomfort or progressive anorexia.

More information regarding clinical emerging mucocele issues may be found with our article and research at http://sonopath.com/resources/articles, Defining a GB Mucocele and Clinical Parameters in Dogs with Sonographically Diagnosed Surgical Biliary Disease from ECVIM 2009.

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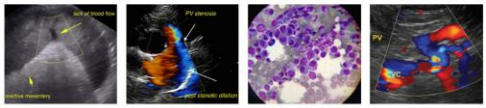

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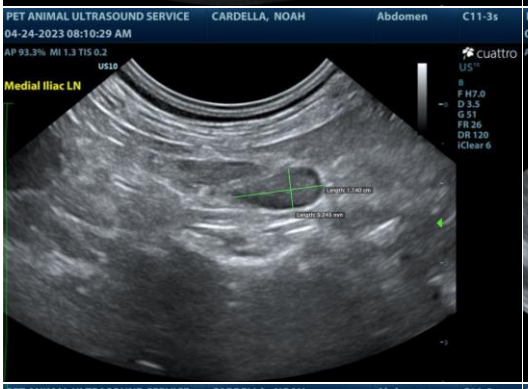

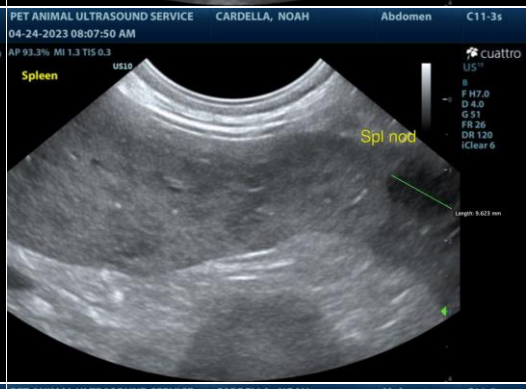

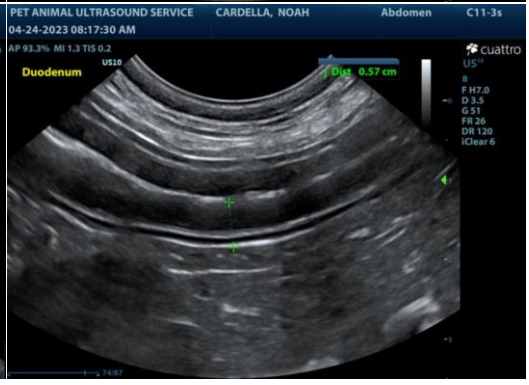

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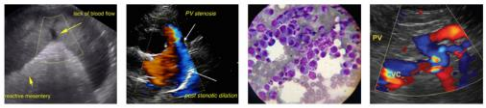

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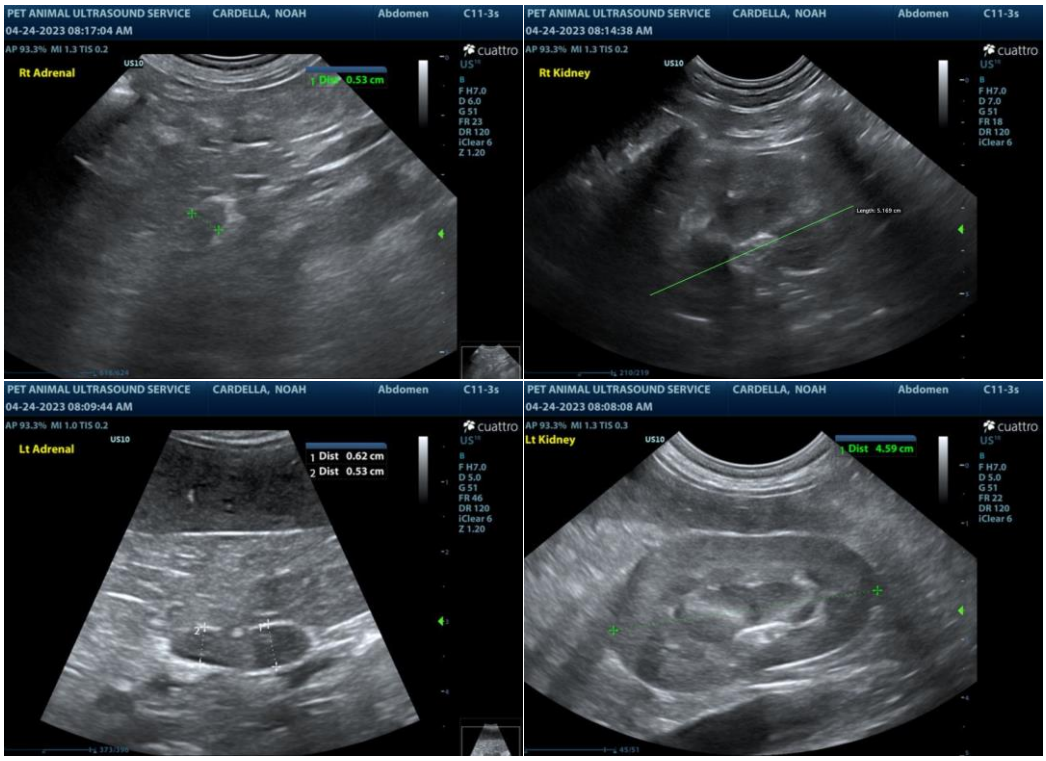

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com