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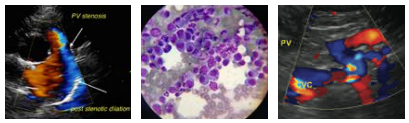

SonoPath
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DATE
10/8/21

PATIENT
Toby Reider

SPECIES
Canine

BREED
Puggle

SEX
Male

AGE
2011

WEIGHT
39.5 lbs

INTERPRETED BY
Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

HOSPITAL NAME
Animal Emergency Hospital

REFERRING VET
Dr. Willer

INVOICE
92277

PRESENTING CLINICAL SIGNS

Referral for Continued Care.
History: Date: 10-07-2021 Notes: per owner- on/off GI issues for the past couple of months- last saw RDVM in June; would get better - then
get worse; a couple of weeks ago- had a bad bout of diarrhea- per owner- went to RDVM- treated- diarrhea got better- but appetite has not been back to normal since- still eating; but decreased; today- vomited; did not eat and having loose stool went to RDVM- bloodwork pending at RDVM radiographs- decreased detail and dilated loops of intestines given Famotidine and cerenia by RDVM referred for continued care had been on bland diet for an extended period of time.
Current Medications: Buprenorphine, Ampicillin
Lab Results: attached bloodwork from RDVM- mild elevation in ALT, low cholestrol, low phosphorus, elevated WBC, neutrophils
no TP, ALB, Glob or Calicum recorded on RDVM's bloodwork.
Radiographs: Sere above
Date of Previous IntraPet Ultrasound: No previous
Sedation: not needed
Stat Report: not requested

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is large in size (3.03 x 4.67 cm) but has a regular shape with smooth external margins. The parenchyma is heterogenous but no discrete focal lesions are present. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (6.37 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.52 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.68 cm at the caudal pole It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.7 cm at the caudal pole It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen
The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver
The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal
The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

Most of the visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter. Some areas have moderate fluid distension. Wall thickness is generally increased with the duodenum measuring 0.51 cm and the jejunum measuring 0.43 cm. Bowel loops follow a curvilinear path. Some areas have mild, mucosal speckling. No focal lesions are consistent with an obstruction or mass effect were visualized.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas
The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen
A scant amount of free fluid was noted. There is a mild mesenteric lymphadenopathy. The sublumbar lymph node measured at 0.75 cm. The omentum is generally hyperechoic and inflamed particularly around the thickened bowel loops.

Other
The left and right testicles were imaged and appear with no visible lesions.

ULTRASONOGRAPHIC FINDINGS
PRIMARY FINDINGS:

- Thickened small intestine with mucosal speckling. The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia. Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

- Mottled prominent pancreas. The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

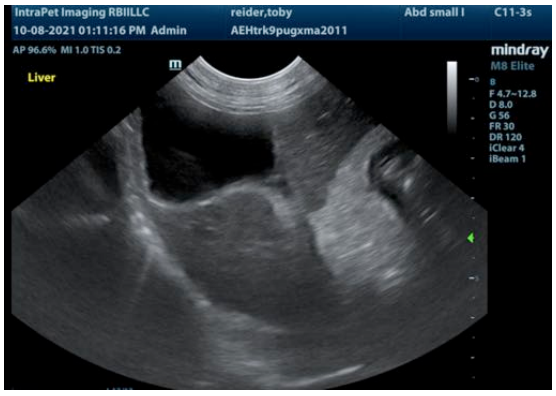
- Large, heterogenous prostate. Prostatic changes are most consistent with benign prostatic hyperplasia. Other differentials include bacterial prostatitis and prostatic neoplasia. However, given the lack of lower urinary tract symptoms, these differentials are considered less likely in this patient.

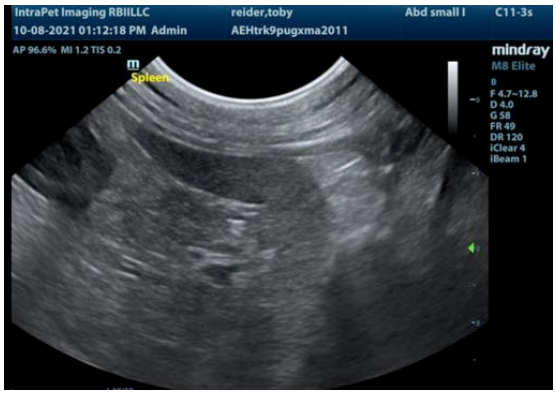
- Small amount of free abdominal fluid and generalized omental inflammation with prominent lymph nodes. The findings are consistent with a small amount of ascites secondary to hypoalbuminemia and generalized inflammation/reactivity.

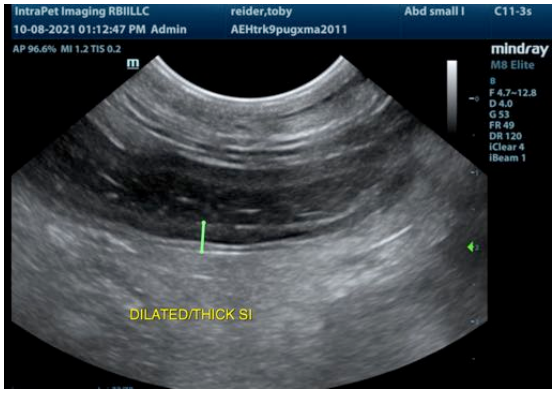
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The history of severe panhypoproteinemia and the finding of small intestinal wall thickening and ascites are most consistent with a diagnosis of protein losing enteropathy. I recommend a liver function test and urine protein to creatinine ratio to rule out the possibility of a concurrent protein losing process. In general the most common differentials for protein losing enteropathy are IBD, lymphangectasia or intestinal neoplasia (other possibilities exist). These processes are differentiated based on intestinal biopsies, which will greatly affect prognosis and treatment strategies. I recommend three view thoracic radiographs.

- Stabilize patient.
- I recommend an ionized calcium as calcium supplementation may be indicated. Judicious use of IV fluids or just colloids.
- I recommend symptomatic treatment for GI disease.
- I recommend probiotic therapy and GI Panel with PLI, TLI, cobalamin and folate to further evaluate the pancreatic inflammation visualized and look for evidence of B12 deficiency and concurrent dysbiosis.
- If possible endoscopic GI biopsies are recommended. If this is definitively ruled out as a possibility then consider empirical therapy for protein losing enteropathy (likely steroids).



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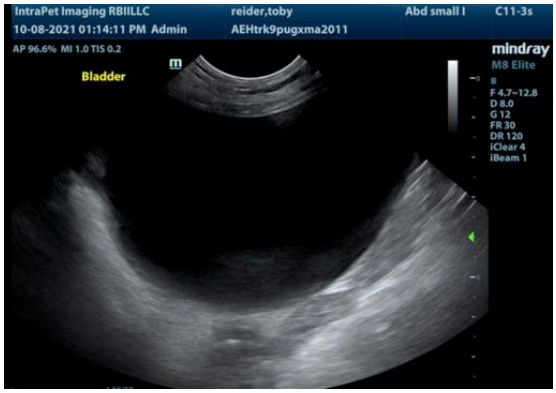
mindray
M8 Elite
DILATED/THICK SI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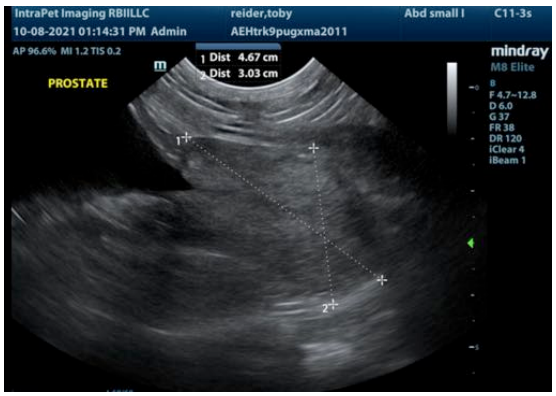
mindray
M8 Elite
Bladder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mindray
M8 Elite
1 Dist 4.67 cm
2 Dist 3.03 cm
PROSTATE


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C11-3s
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M8 Elite
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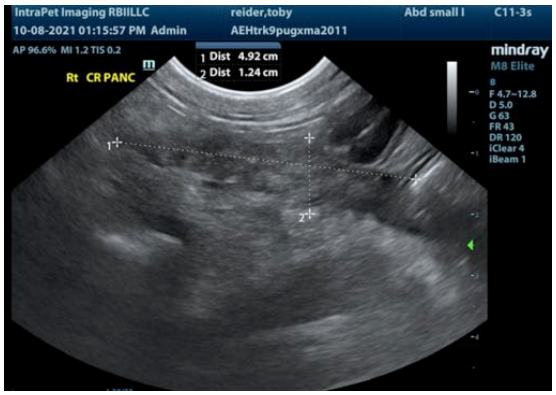
2 Dist 0.75 cm
VESS
SUBLUMBAR LN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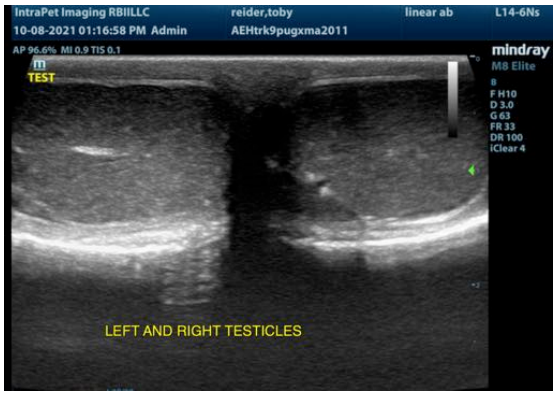
mindray
M8 Elite
1 Dist 4.92 cm
2 Dist 1.24 cm
Rt CR PANC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L14-6Ns
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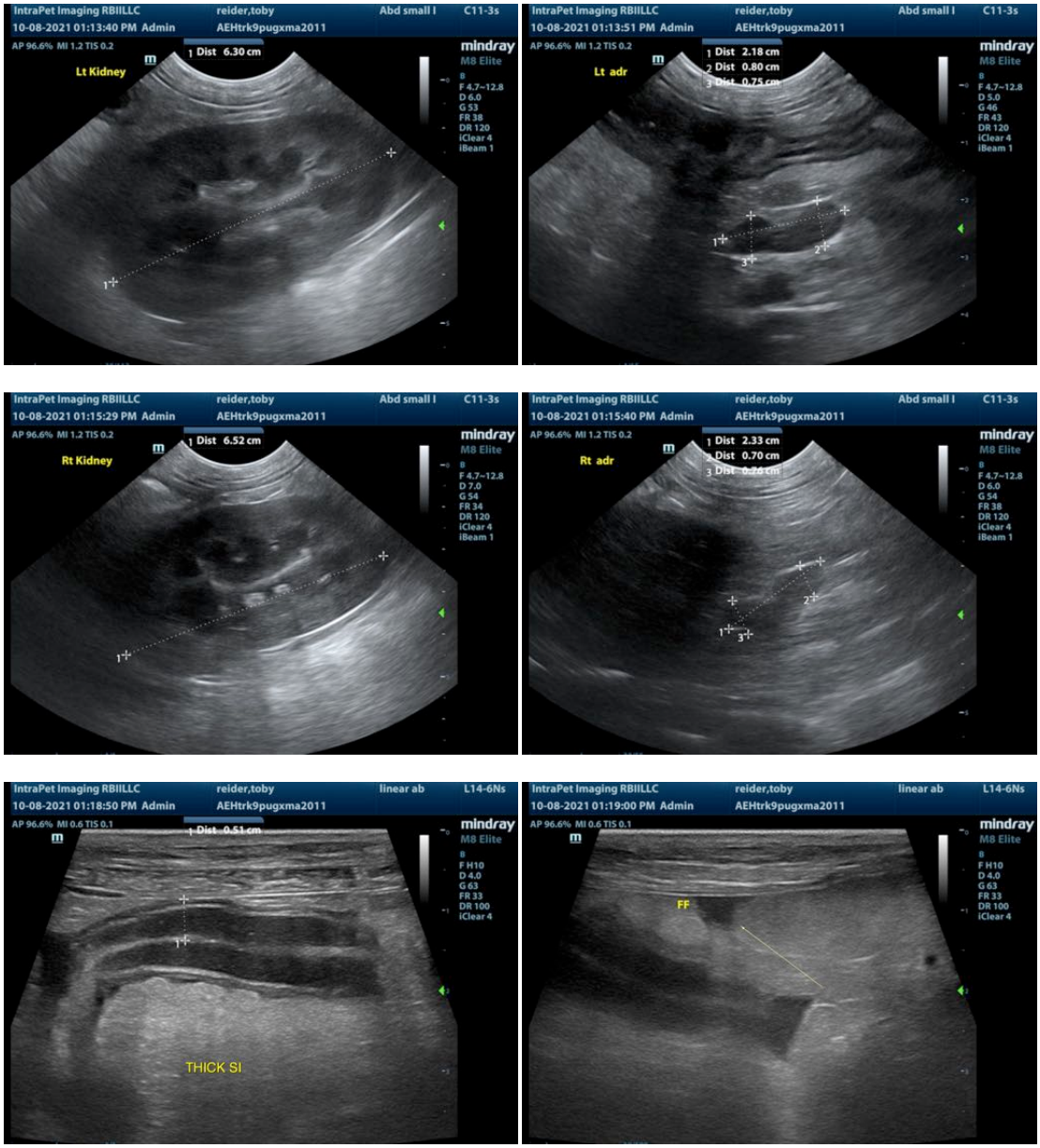
mindray
M8 Elite
TEST
LEFT AND RIGHT TESTICLES



The information and recommendations provided are based on the images presented by the referring veterinarian. 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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