



PATIENT

Izzy Brubaker

SPECIES

Canine

BREED

Puggle

SEX

Female, spayed

AGE

13.3 Yrs.

WEIGHT

21 lbs.

INTERPRETED BY

Andrea Nicastro, DVM,
Diplomate ACVIM
(Small Animal Internal
Medicine)

**IMAGING
PERFORMED BY**

Dr. Meghan Myers

HOSPITAL NAME

Hershire AH

REFERRING VET

Dr. Meghan Myers

INVOICE

14720

DATE

3/13/23

PRESENTING CLINICAL SIGNS

History: patient presented 3 months ago for ADR. blood work revealed mild hypoalbuminemia and low normal globulin. Fecal was NPS. Pet was doing well so owner did not bring back for recheck values. Last 24 hours: anorexic, vomiting, bloody diarrhea which has now turned to liquid brown diarrhea with foul smell. Lethargic and dehydrated. Mild discomfort with abdominal palpation.
Abnormal PE/Chem/CBC/UA Results: ALT: mild increase 150 Alb: low normal at 2.1 (is dehydrated though) lymphopenia hypokalemia

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. The region of the trigone is normal.

The left kidney is normal in size (4.49 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney is normal size (4.71 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal size (0.42 cm at cranial pole) (0.40 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.97 cm at cranial pole) (0.46 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is subjectively normal in size (1.48 cm in width at the level of the hilus) with a slightly irregular peripheral margin at the cranial aspect and normal margins throughout the rest of the organ. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

Liver

The liver is subjectively prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A small amount of suspended echogenic debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal



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The gastric lumen is not distended. The gastric wall is normal in thickness with a normal layering pattern. The small intestinal lumen is segmentally dilated with chyme (mild). The small intestinal wall is normal to borderline thickened (up to 0.41 cm) with retention of the normal layering pattern. There was evidence of mucosal speckling in some segments. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

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Pancreas

The pancreas is normal in size with normal peripheral contours. The pancreatic duct is normal. The base and limbs of the pancreas are isoechoic to surrounding omental fat. No focal lesions are observed. There is no evidence of peripancreatic inflammation or effusion.

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Free Abdomen

There is no obvious evidence of free fluid. The abdominal lymph nodes are normal/not visible.

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ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- The patient's clinical history in conjunction with the small intestinal wall changes, are suggestive of a protein-losing enteropathy. Differentials include inflammatory bowel disease, lymphangiectasia, infectious/parasitic disease, emerging lymphoma, other.

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Secondary Findings:

- The pancreatic changes may be a normal variant for this patient or could be consistent with mild, chronic pancreatitis. Correlation with clinical findings is recommended.
- Bilateral chronic renal changes with dystrophic mineralization.
- Hepatic parenchymal changes are suggestive of a benign hepatopathy (i.e., vacuolar). However, other hepatopathies (i.e., reactive, inflammatory disease) cannot be completely excluded.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Despite the negative fecal evaluation, consider prophylactic deworming with Fenbendazole.
- Initiation of a probiotic +/- a fiber supplement may also prove beneficial.
- Consider a malabsorption panel including serum cobalamin, folate, TLI, PLI and a resting cortisol level (send to Texas A&M).
- When the patient is eating again, consider transitioning to a prescription hydrolyzed protein or hypoallergenic diet.
- Ultimately, endoscopic or surgical GI biopsies may be necessary to get a definitive diagnosis.
- To rule out other concurrent causes of hypoalbuminemia, consider the following:

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- Pre- and post-prandial serum bile acids
- UPC (if proteinuria is present)

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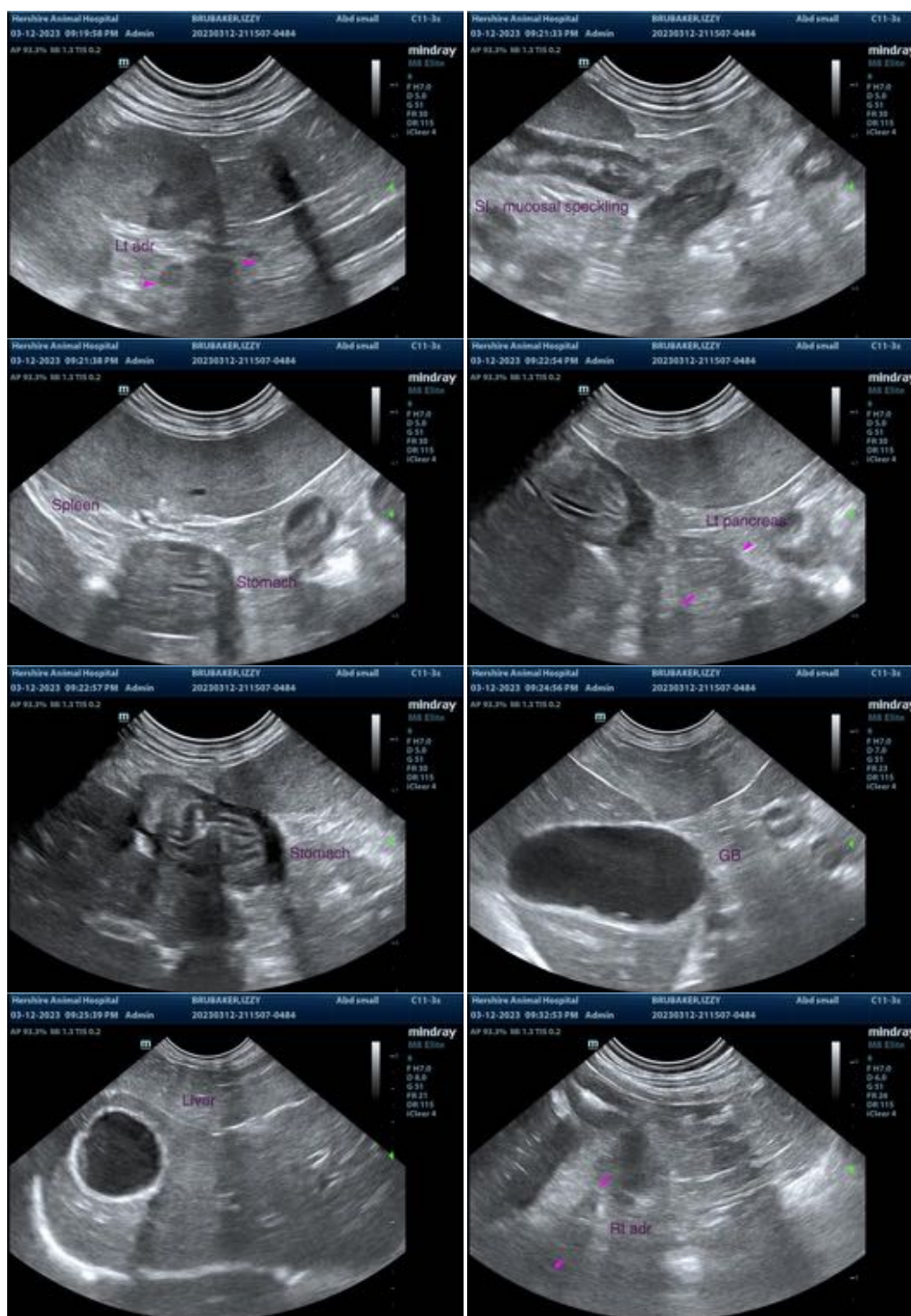
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
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