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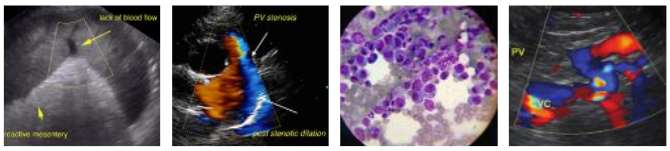


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1-800-838-4268 info@sonopath.com

**PATIENT**
Lucy Watkins

**SPECIES**
Canine

**BREED**
Terrier Mix

**SEX**
Spayed Female

**AGE**
10 Years

**WEIGHT**
11.1 Kg.

**INTERPRETED BY**
Andrea Nicastro, DMV, Diplomate DACVIM (Small Animal Internal Medicine)

**IMAGING PERFORMED BY**
Jolee Stegemoller, DVM

**HOSPITAL NAME**
North Idaho Animal Hospital

**REFERRING VET**
Jolee Stegemoller, DVM

**INVOICE**
10059

**DATE**
12/3/21

## PRESENTING CLINICAL SIGNS

History: Presented 12/1 for lethargy, flatulence, and painful abdomen. Owner had recently changed food. Patient seemed to improve, but flatulence has continued. Owner recently moved to historic farmhouse, so concerns exist for toxin exposure.

Abnormal PE/Chem/CBC/UA Results: 12/1/21 - ALT 338, ALP 984, USG 1.030, pH 7, Leu 100/uL 12/17/21- ALT386, ALP 478,USG 1.032, pH 8, Glu 50/Ket 15 (BG 131), bacteriuria TNTC coccobacilli, WBC 1/hpf, RBC 2/hpf Liver cytology and bile acids testing pending. Started Denamarin while waiting for test results and treating for urinary tract infection.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. A moderate amount of aggregated echogenic suspended debris is observed within the lumen. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The left kidney presented normal size (4.32 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney presented normal size (4.58 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The left adrenal gland is normal size (0.28 cm at cranial pole) (0.46 cm at caudal pole) (2.29 cm in length); 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 (0.63 cm at cranial pole) (0.31 cm at caudal pole) (1.71 cm in length); 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 normal in size (1.65 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

### *Liver*

The liver is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and exhibits a finely heterogenous pattern. No distinct focal lesions are observed. Hepatic vasculature and intrahepatic 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 aggregated echogenic, mostly gravity dependent debris is observed within the lumen. The cystic and common bile ducts are normal.

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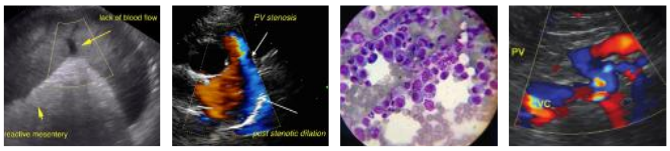

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***Gastrointestinal***
The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive or overt infiltrative disease is noted.

***Pancreas***
The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

***Free Abdomen***
The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

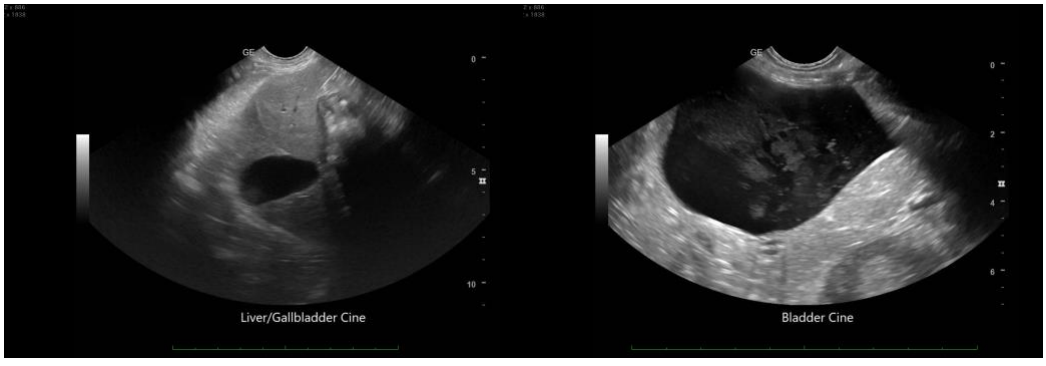
- Nonspecific diffuse hepatopathy. Differentials include inflammatory/immune-mediated disease, infectious disease (i.e., leptospirosis), hepatotoxicosis (i.e. copper), other hepatopathy +/- concurrent benign age-related change.

### Secondary Findings

- The urinary bladder debris could be consistent with cells, crystals and/or exfoliated material.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Consider leptospirosis testing (i.e., blood-in-urine PCR, serology). Depending on the results of the serum bile acids and hepatic cytology, a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for potential copper quantitation may be warranted.
- Three-view thoracic radiographs should be performed prior to any anesthetic event.
- Also consider a GI Panel including serum and cobalamin folate TLI and PLI to assess for concurrent microscopic gastrointestinal and pancreatic disease.



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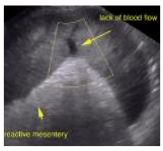
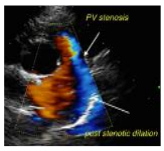
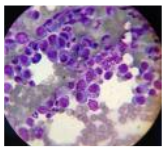
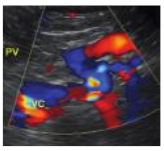

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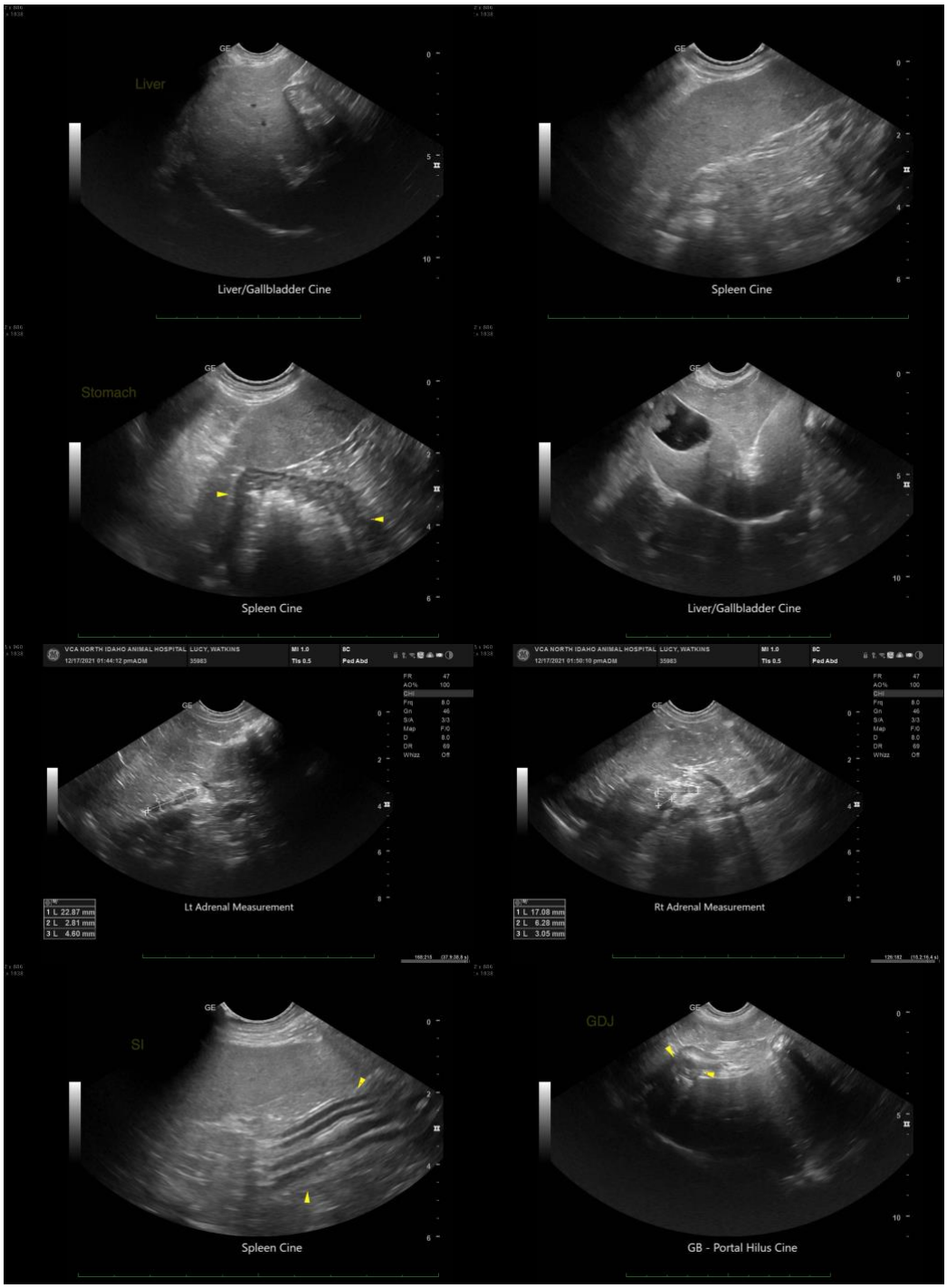


**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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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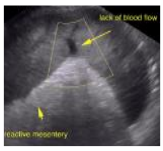

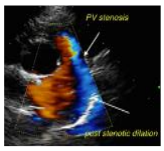

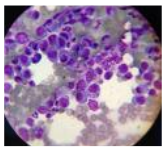
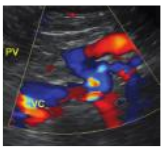


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