SonoPath
Clinical Sonography & Telecytology
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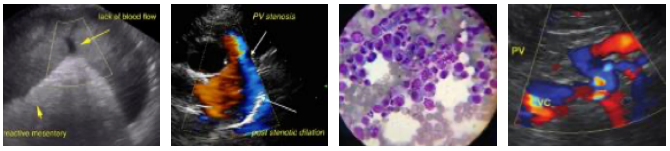


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Shaman Hebert

SPECIES
Canine

BREED
Malamute

SEX
Female, spayed

AGE
11 Yrs.

WEIGHT
36 kg.

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

IMAGING PERFORMED BY
Dr. Patti Mayfield

HOSPITAL NAME
La Paw AH

REFERRING VET
Dr. LaPaugh

INVOICE
12388

DATE
10/19/21

PRESENTING CLINICAL SIGNS

History: Primary complaint: Last week, patient was wobbly and had gurgly stomach, anorexic, with mucous soft stools and incontinent 1 day -- diarrhea is resolving Pertinent Medical History: recurrent episodes of anorexia and incontinence that resolve Current Medication: Metronidazole, Cerenia, Proviable *Client reports patient is fed grain-free diet*
Abnormal PE/Chem/CBC/UA Results: Physical exam: Lenticular sclerosis and episcleral hyperemia OU, and presumptive meibomian gland adenoma on ventral palpebra OS. Worn dentition with grade II-III/IV dental disease. Abdomen is slightly doughy and pendulous, with thin skin on the ventral abdomen and seborrhea sicca. Stiff hips. Diagnostic Tests Performed/Results: Last week: Alt 355 (normal in august) ALKP543 (494 in august) HCT, HGB, RBC elevated lympho low (slight low in august as well) Urine 2+ Bilirubin, otherwise wnl

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 lumen is moderately distended with anechoic urine. 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 is normal size (7.63 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (7.16 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of 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 (0.68 cm at cranial pole) (0.71 cm at caudal pole) (2.69 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.

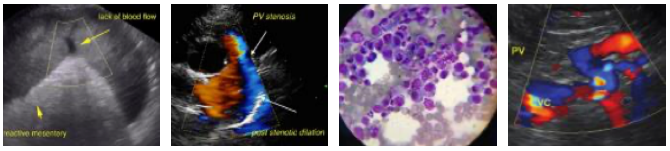
The right adrenal gland is normal size (1.47 cm at cranial pole) (0.65 cm at caudal pole) (2.87 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is subjectively normal in size (1.56 cm in width at the level of the hilus) with normal curvilinear peripheral contours. A few ill-defined hyperechoic nodules are observed in the region of the hilus. In addition, 1-2 small ill-defined hypoechoic areas are seen. Splenic vasculature is normal with no evidence of thrombosis.

Liver

The liver is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen and diffusely mottled in appearance. A 2.58 x 2.23 cm ill-defined hypoechoic nodule is observed deep on the left side. At the caudal aspect, a 3.64 cm swelling is



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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 few small polypoid like lesions are arising from the luminal surface. A moderate amount of aggregated echogenic to mineralized partially dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The gastric lumen is mildly to moderately distended with ingesta. The gastric wall is 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 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:

- Non-specific diffuse hepatopathy. Differentials include inflammatory/immune mediated disease (i.e., bacterial cholangiohepatitis, chronic active hepatitis), Leptospirosis, hepatotoxicosis (i.e., copper), reactive hepatopathy, other. The caudal hepatic swelling may represent an enlarged liver lobe. Alternatively, an emerging neoplastic process cannot be excluded.
- Gallbladder sludge.

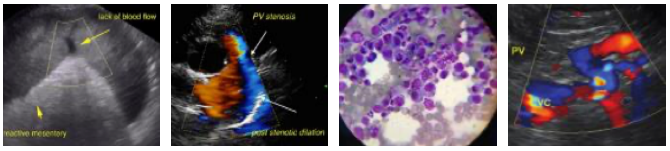
Secondary Findings:

- The hyperechoic lesions adjacent to the splenic vessels are most consistent with myelolipomas. Although a neoplastic process within the spleen cannot be excluded, it is considered unlikely in this patient. The remaining splenic parenchymal changes are most consistent with benign pathology (i.e., lymphoid hyperplasia or extramedullary hematopoiesis) with a low possibility of neoplasia.
- Minor age-related renal pathology.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the clinical history and sonographic changes, the following diagnostics/therapeutics can be considered:

1. Leptospirosis testing (i.e., blood and urine PCR, serology).



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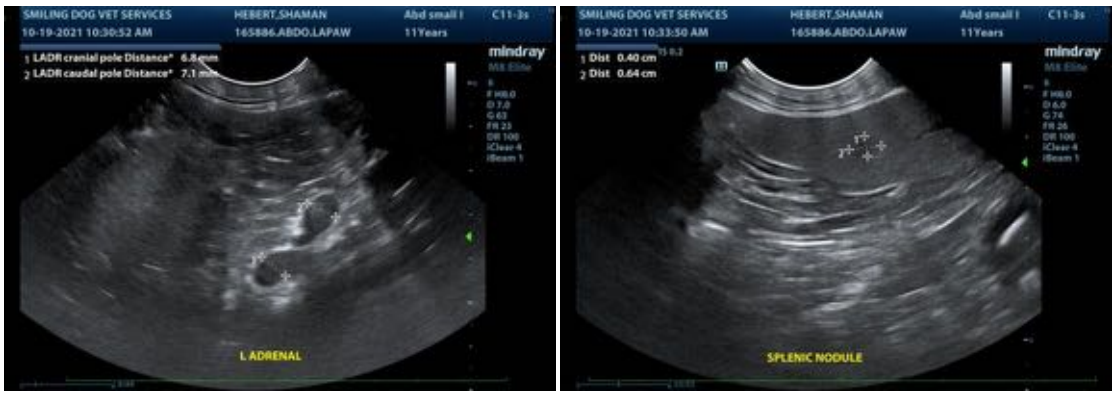
2. Cytologic evaluation of the liver should be considered in this patient if clotting status is appropriate. A fine needle aspirate using a 25-gauge needle is recommended. If cytologic evaluation is inconclusive, consider a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for copper quantitation.
3. If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, Denamarin Advanced). If no improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.
4. Regarding the hepatic swelling, a repeat ultrasound is recommended in 4-6 weeks to assess for progression.

Regarding the gastrointestinal signs, consider the following:

5. A fecal evaluation for ova/Giardia.
6. Prophylactic deworming with Fenbendazole at 50 mg/kg once a day for 5 days is recommended. Repeat above protocol in 3 weeks.
7. Malabsorption panel including serum cobalamin, folate, TLI and PLI.
8. A resting cortisol level to screen for hypoadrenocorticism. If resting cortisol level is < 2.0 mcg/dL, an ACTH stimulation test is recommended
9. If diarrhea persists, consider transitioning to a prescription hypoallergenic diet +/- endoscopic or surgical gastrointestinal biopsies.

Three-view thoracic radiographs are recommended to assess cardiopulmonary status.



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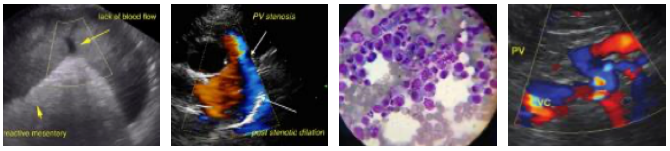

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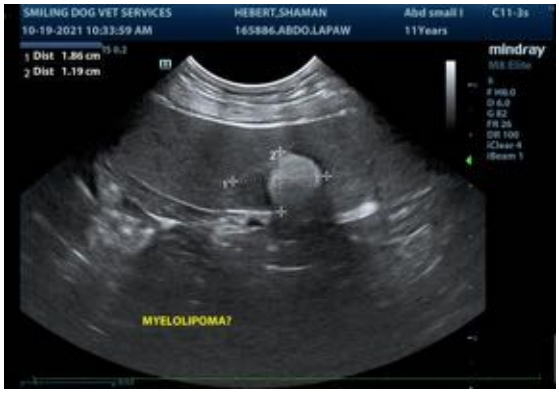

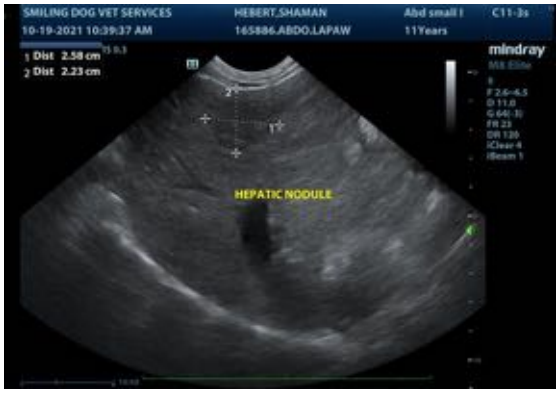

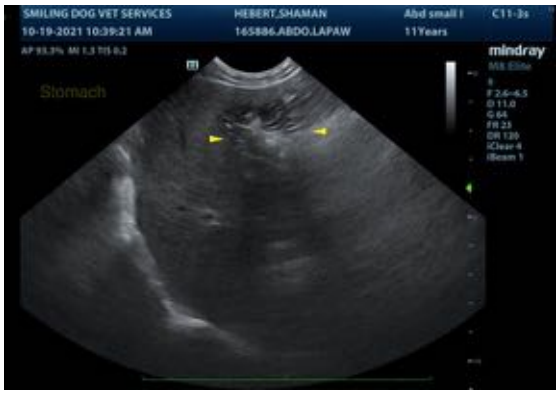

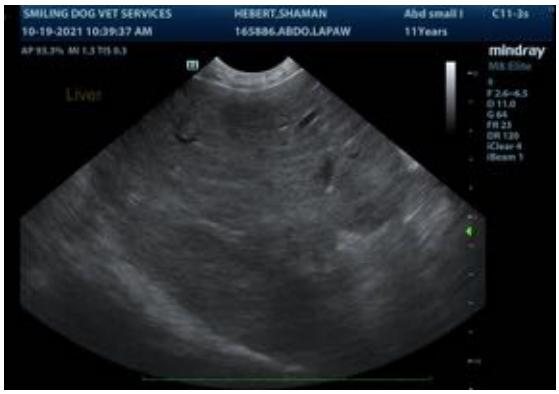

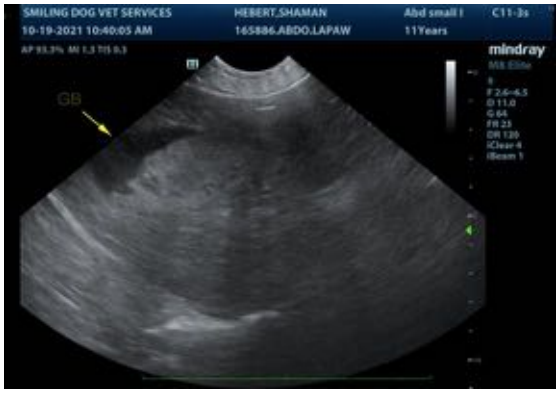

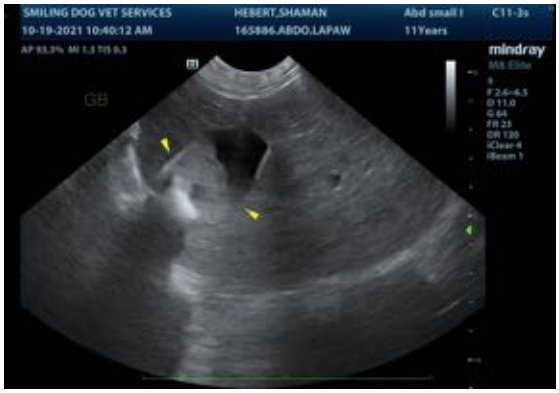

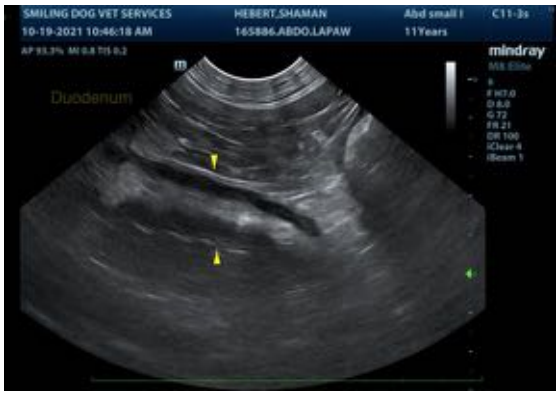

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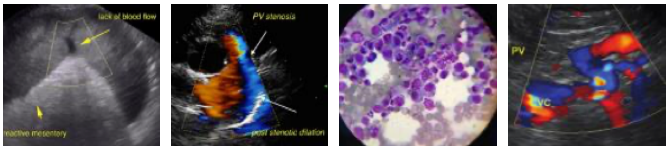

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

Andrea.nicastro@sonopath.com