



PATIENT

Sophie Moran

SPECIES

Canine

BREED

Mixed breed

SEX

Female, spayed

AGE

11 Yrs.

WEIGHT

65 lbs.

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Kelly Vasquez

HOSPITAL NAME

Ramapo Valley AH

REFERRING VET

Dr. Duhr

INVOICE

12440

DATE

10/27/21

PRESENTING CLINICAL SIGNS

History: Vomiting, elevated hepatocellular and cholestatic liver values. Current meds: Cerenia, Denamarin (just started 10/25), levothyroxine.
Abnormal PE/Chem/CBC/UA Results: 10/15/21: AST 86, ALT 615, ALP 1040, GGT 15.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The left kidney is normal size (6.49 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney is normal size (6.57 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal size (0.47 cm at cranial pole) (0.53 cm at caudal pole) (1.47 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 region of the right adrenal gland is evaluated. No obvious pathology is seen.

Spleen

The spleen is normal in size (2.17 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 to slightly prominent in size with subtly irregular peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely heterogeneous and mottled in appearance. 2 distinct hypoechoic nodules are observed deep on the left side, one measuring 1.90 x 1.67 cm, the other measuring 1.03 x 0.92 cm. In addition, an isoechoic nodule measuring 2.30 x 1.87 cm is observed deep on the right side, adjacent to the diaphragm. 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 echogenic to mineralized adherent debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. One segment of small intestine in the mid-abdominal cavity is fluid distended with a hyperechoic linear shadowing structure moving within the



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lumen. The remainder of 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.

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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.

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Free Abdomen

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

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ULTRASONOGRAPHIC FINDINGS

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Primary Findings:

- Non-specific diffuse hepatopathy. Differentials include inflammatory/immune mediated disease (i.e., bacterial cholangiohepatitis, chronic active hepatitis), Leptospirosis, hepatotoxicosis (i.e., copper), infiltrative neoplasia +/- concurrent age-related pathology (i.e., regenerative nodular hyperplasia, vacuolar hepatopathy).
- The focal small intestinal dilation may represent a region of focal ileus or less likely, an obstruction. The hyperechoic linear shadowing focus in this region may represent transient foreign material or artifact (i.e., gas).

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Secondary Findings:

- Bilateral age-related renal changes.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Leptospirosis testing (i.e., blood and urine, PCR, serology) is recommended.
- 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.
- 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.
- Given the patient's age, three-view thoracic radiographs are recommended to assess cardiopulmonary status.
- Given the bowel dilation, a repeat ultrasound is recommended in 24-48 hours to assess for progression, particularly if the patient continues to vomit.

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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

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