



PATIENT PRESENTING CLINICAL SIGNS

Patient: Brody Earls
History: Brody has a history of neurologic episodes and blood work showed elevated liver values. Bile acid test was normal. Ultrasound to assess liver and cause of neurologic episodes. Brody also had recurrent bouts of diarrhea.

SPECIES

Canine

BREED

Poodle Mix

SEX

Neutered Male

AGE

6 years, 5 mos

WEIGHT

26.6 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

A. Murphy CVT

HOSPITAL NAME

Wauwatosa Vet

REFERRING VET

Dr Jamie Oakes

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is distended. The wall is normal in thickness with a smooth mucosal surface. A least two cystic calculi are observed, the larger measuring 0.53 cm in diameter. The remaining luminal contents are anechoic. The region of the trigone and the visible portion of the proximal urethra are normal.

The **prostate** is normal in size (1.01 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The **left kidney** is subjectively normal in size, with a 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.

The **right kidney** is normal size (5.81 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.

Adrenal Glands

The **left adrenal gland** is normal size (0.47 cm at cranial pole) (0.47 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 (0.90 cm at cranial pole) (0.59 cm at caudal pole) (2.19 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 (1.43 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 enlarged with slightly swollen peripheral contours. The parenchyma is hyperechoic 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 scant amount of aggregated, echogenic, gravity dependent debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

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 pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is

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normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

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 disease (i.e., bacterial cholangiohepatitis, chronic active hepatitis), infiltrative neoplasia (i.e., lymphoma), Leptospirosis, hepatotoxicosis, vacuolar hepatopathy, other.
- Cystic calculi

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

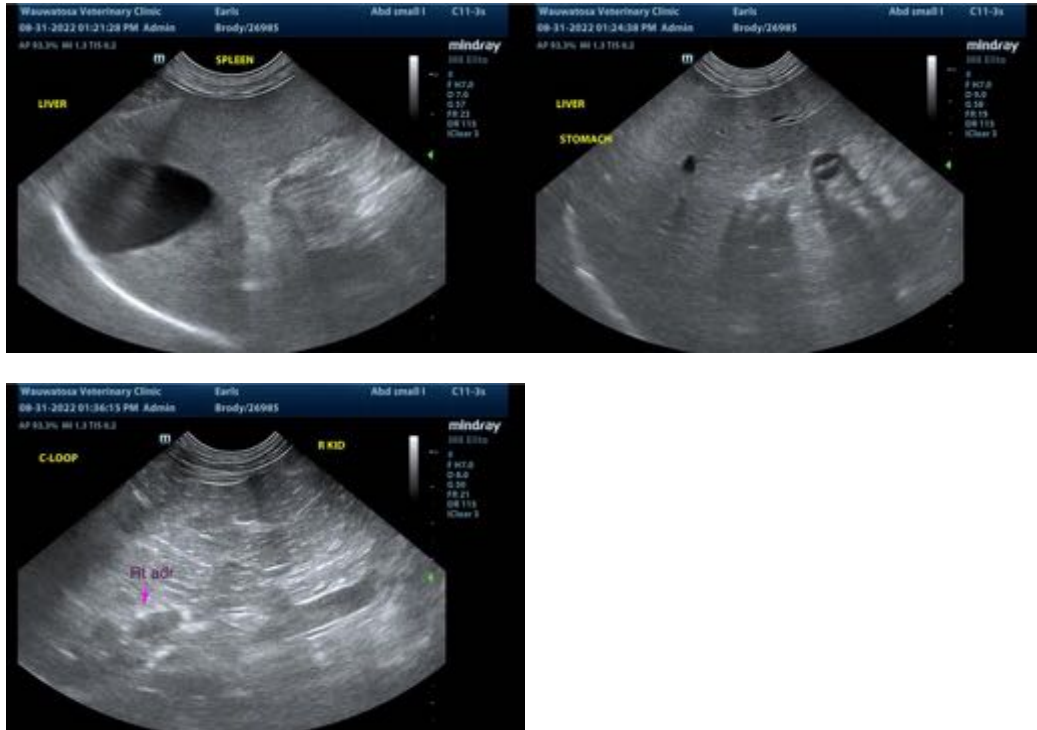
Consider a blood ammonia level to further assess for hepatic encephalopathy.

Leptospirosis testing (i.e., blood and urine PCR, serology) is recommended, particularly if the patient's liver enzyme elevations are acute in nature.

Consider hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy) if clotting times are normal. Hepatic cytology is beneficial when assessing for round cell neoplasia and vacuolar hepatopathy but may be less beneficial in assessing for other hepatopathies. Surgical biopsies are more likely to be representative of global organ pathology. If pursued, aerobic and anaerobic bile cultures are recommended along with acquisition of additional hepatic tissue samples for potential copper quantitation. A cystotomy with stone removal, analysis and culture can be considered if liver biopsies are pursued. Otherwise, consider an attempt at medical dissolution with a prescription renal diet and broad-spectrum antibiotics.

Consider consultation with a board-certified neurologist to further evaluate the neurologic episodes.





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.

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