



PATIENT

Farrah Johnson

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Female, spayed

AGE

11 Yrs. 11 Months

WEIGHT

12.6 lbs.

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

M. Kermendy, CVT

HOSPITAL NAME

Wauwatosa Vet

REFERRING VET

Dr. Ericka Haynes

INVOICE

12610

DATE

11/29/21

PRESENTING CLINICAL SIGNS

History: ALT noted to be elevated on routine lab work in June (249 ref range 10-125) Patient started on Denamarin, but ALT remains elevated (242 on 11/17). Patient receives Rimadyl 2mg/kg every 12-24 hours, as needed, for joint pain relief. Screening for cause of elevated ALT.

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. A scant amount of echogenic debris is suspended 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 is normal size (3.77 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. Several nephroliths are visualized. Trace pyelectasia is present. There is no evidence of infarcts or hydronephrosis.

The right kidney is normal in size (4.01 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is normal 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 upper limits of normal size (0.42 cm at cranial pole) (0.56 cm at caudal pole) (1.89 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 (0.89 cm at cranial pole) (0.39 cm at caudal pole) (1.89 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 (1.01 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 contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of partially dependent echogenic to mineralized debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.



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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 pyloric outflow tract is patent. 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.

Other

A brief visualization of the heart reveals no evidence of pericardial effusion.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Gallbladder debris, non-mucocele.
- An obvious cause for the elevated liver enzymes is not identified in the study. However, a microscopic hepatopathy (i.e., bacterial cholangiohepatitis, Leptospirosis, chronic active hepatitis, copper-associated hepatotoxicity, reactive hepatopathy, infiltrative neoplasia (less likely)) should be considered.

Secondary Findings:

- Left non-obstructive nephrolithiasis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- 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 should be performed prior to any anesthetic event.



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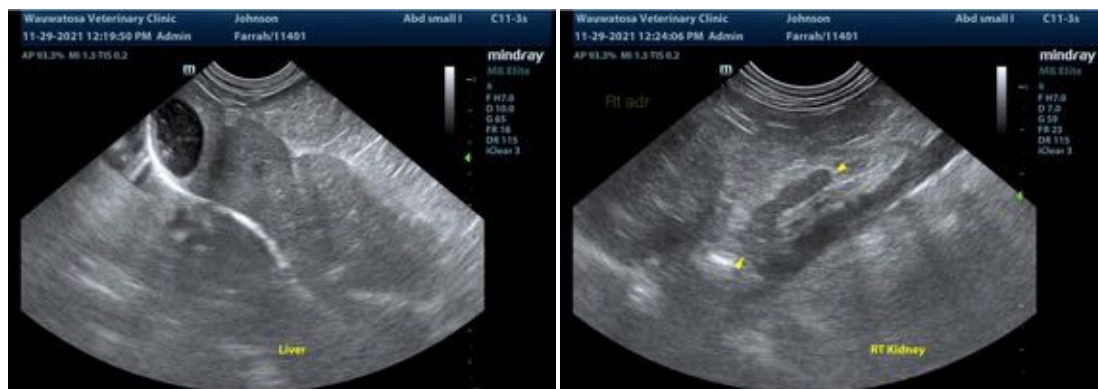
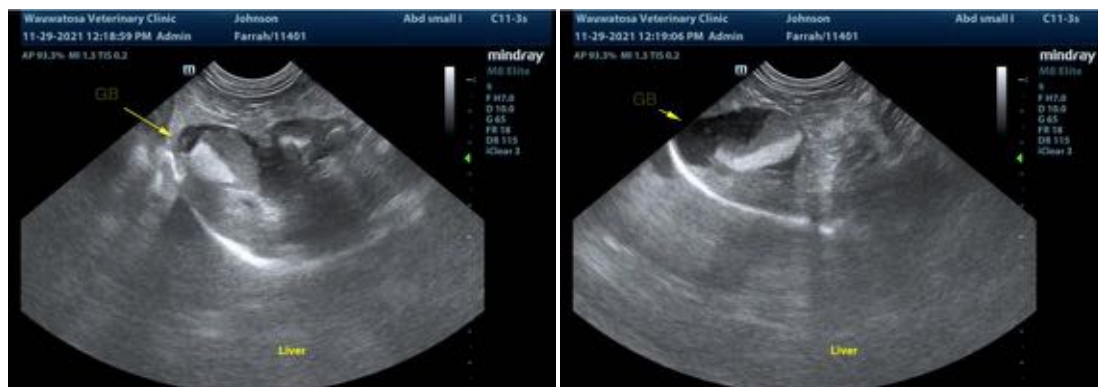
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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