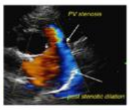
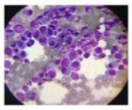
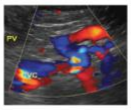




PATIENT

Boo Johnson

SPECIES

Canine

BREED

Maltese

SEX

Neutered Male

AGE

10 years, 8 mos

WEIGHT

17.4 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Potomac Mobile Veterinary Ultrasound

HOSPITAL NAME

Banfield PH Leesburg

REFERRING VET

Dr. Cathy Jarrett

INVOICE

11096

DATE

6/16/22

PRESENTING CLINICAL SIGNS\

History: Having urinary accidents in the house, continued mild ALT elevation, and now GGT and CHOL are also elevated. Currently on Denamarin and Dasuquin. Had an ultrasound 04/2021 for concerns about elevated liver values that did not get better with Denamarin.
Abnormal PE/Chem/CBC/UA Results: (03/22/2022) CHEM: ALT 133, CHOL 354, GGT 22. CBC: PCT 0.5% and MPV 12.2.

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 prostate is normal in size (1.76 cm in length; 0.93 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal in size (4.68 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney presented normal size (4.81 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 hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal size (0.43 cm at cranial pole) (0.45 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 (0.58 cm at cranial pole) (0.48 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.

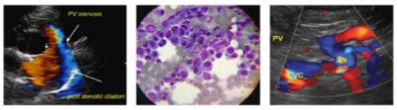
Spleen

The spleen is normal in size (1.46 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 swollen to slightly irregular peripheral contours. The parenchyma is largely isoechoic relative to the spleen and subtly heterogenous in appearance. A 3.00 x 1.45 cm nodule/mass is observed at the caudal aspect of the right liver. 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



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aggregated, echogenic to mineralized, mostly gravity dependent debris is observed within the lumen. The cystic and common bile ducts are normal.

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. There is no evidence of an obstructive pattern.

Pancreas

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic 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

- Right liver nodule/mass. This lesion is similar in size compared to the previous sonogram. Therefore, a more benign process (i.e., regenerative nodule, adenoma) is considered more likely. However, a slow-growing adenocarcinoma or other tumor cannot be completely excluded.
- The diffuse hepatic parenchymal changes are nonspecific and could be associated with an inflammatory hepatopathy (i.e., chronic active hepatitis, bacterial cholangiohepatitis), hepatotoxicosis (i.e., copper), reactive hepatopathy, or less likely, infiltrative neoplasia.

Secondary Findings

- Minor, age-related pancreatic remodeling, slightly more pronounced when compared to the previous sonogram
- Minor, age-renal changes with left dystrophic mineralization

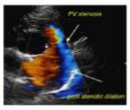
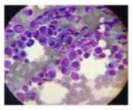
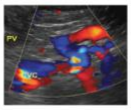
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the urinary accidents, consider the following:

1. Urinalysis (if not already performed)
2. Urine culture and sensitivity

Regarding the ALT elevation, further workup could include the following:

1. Pre-and postprandial serum bile acids
2. Hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsies). Surgical biopsies are preferred in that they are more likely to be representative of global organ pathology. If surgery is pursued, the right nodule/mass should be removed and submitted for

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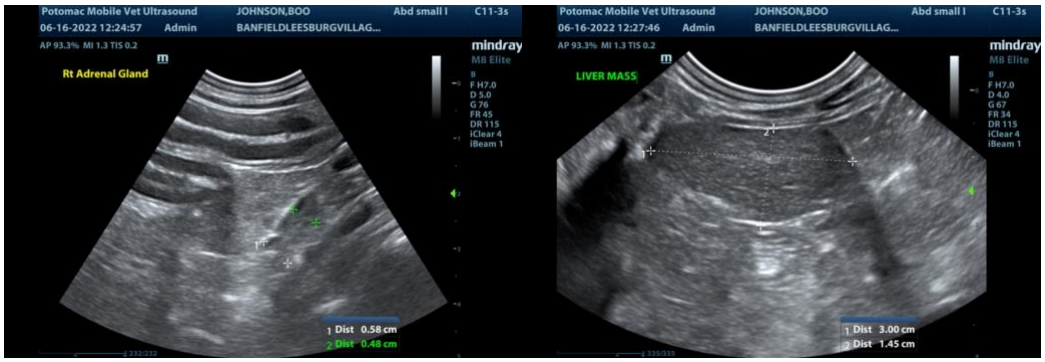
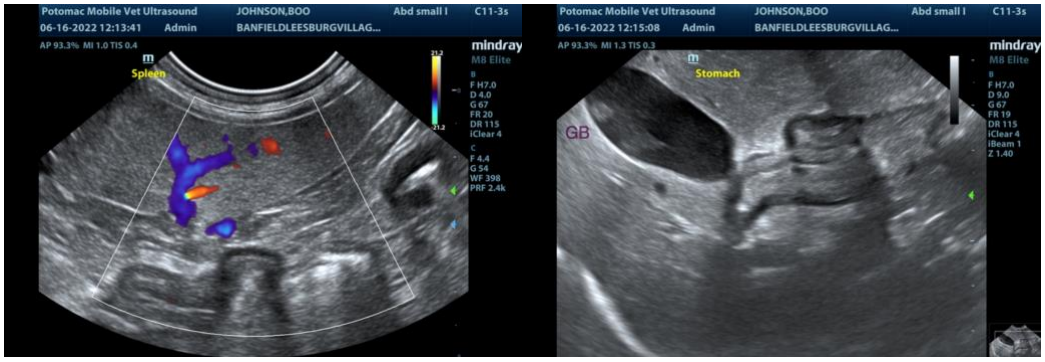
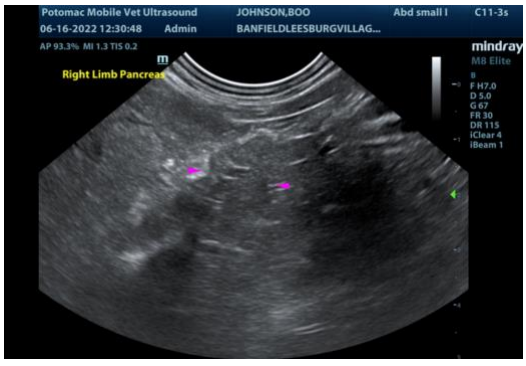
histopathology. In addition, aerobic and anaerobic bile cultures should be obtained along with acquisition of additional hepatic tissue samples for potential copper quantitation. Given the patient's age, thickened radiographs (three-view) are recommended prior to any anesthetic event.

If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, +/-metronidazole, Denamarin). 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.







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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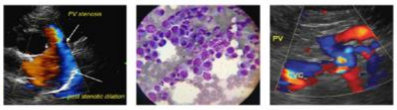

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info@SonoPath.com

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