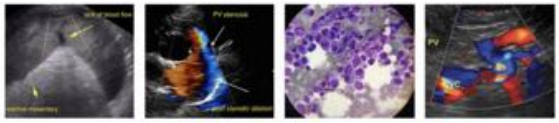

PATIENT

Lexy Parrish

SPECIES

Canine

BREED

Austr Shep

SEX

Spayed Female

AGE

12 years

WEIGHT

26.80 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

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HOSPITAL NAME

Long Point AH

REFERRING VET

Dr. Erin Burton, DVM

INVOICE

12047

DATE

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PRESENTING CLINICAL SIGNS

History: Elevated liver enzymes. ALT 495. ALP 281. GGT 93.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is 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 in size (5.06 cm in length) with a normal shape, architecture and smooth peripheral margins. The cortex is hyperechoic. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal in size (5.68 cm in length) with a normal shape, architecture and smooth peripheral margins. The cortex is hyperechoic. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is mildly enlarged (0.76 cm at cranial pole) (0.70 cm at caudal pole) with a slightly irregular shape and 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 in normal size (1.05 cm at cranial pole) (0.59 cm at caudal pole) with a normal shape and 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 (1.19 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.

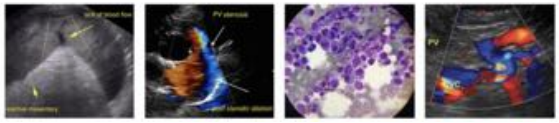
Liver

The liver is subjectively enlarged with swollen peripheral contours. The parenchyma is hyperechoic relative to the spleen. A 2.77 cm cystic lesion is observed on the right side. The remaining parenchyma is homogenous. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion. The portal vein to caudal vena cava ratio is approximately 1: 1.

The gall bladder lumen is moderately distended. The wall is thin and smooth. A scant amount of echogenic debris is adhered to the luminal surface. 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



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intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The ileocecocolic junction and colonic wall are normal. The colonic lumen contains shadowing fecal material. 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 borderline dilated (0.30 cm in diameter). 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.

Other

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Nonspecific diffuse hepatopathy. Given the liver enzyme pattern, inflammatory disease (i.e., chronic hepatitis, bacterial cholangiohepatitis) is a top differential. Other considerations include Leptospirosis, hepatotoxicity (i.e., copper), other hepatopathy, +/- concurrent change (i.e., vacuolar hepatopathy). The right hepatic cyst is likely a benign incidental finding, with a low possibility of an emerging vascular tumor.

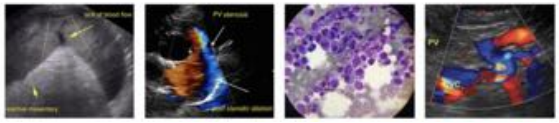
Secondary Findings

- Bilateral age-related renal changes with dystrophic mineralization
- The mild left adrenomegaly may be a normal variant for this patient or may represent early hyperplastic change.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the liver enzyme elevations, consider the following:

    1. Pre-and postprandial serum bile acids to assess hepatic function
    2. Leptospirosis testing (i.e., blood and urine PCR, serology), particularly if the clinical suspicion for disease is high
    3. Hepatic tissue sampling (i.e., fine-needle aspirate or biopsies (i.e., laparoscopic or surgical)). If biopsies are pursued, aerobic and anaerobic bile cultures should be obtained along with additional hepatic tissue samples for potential copper quantitation. Prior to anesthesia, clotting times (i.e., PT/PTT) and thoracic radiographs should be performed.
    4. If a more conservative approach is desired, consider empirical treatment for cholangiohepatitis with amoxicillin-clavulanic acid along with hepatic antioxidants. If liver values do not begin to improve within 7-10 days of initiating therapy, antibiotics



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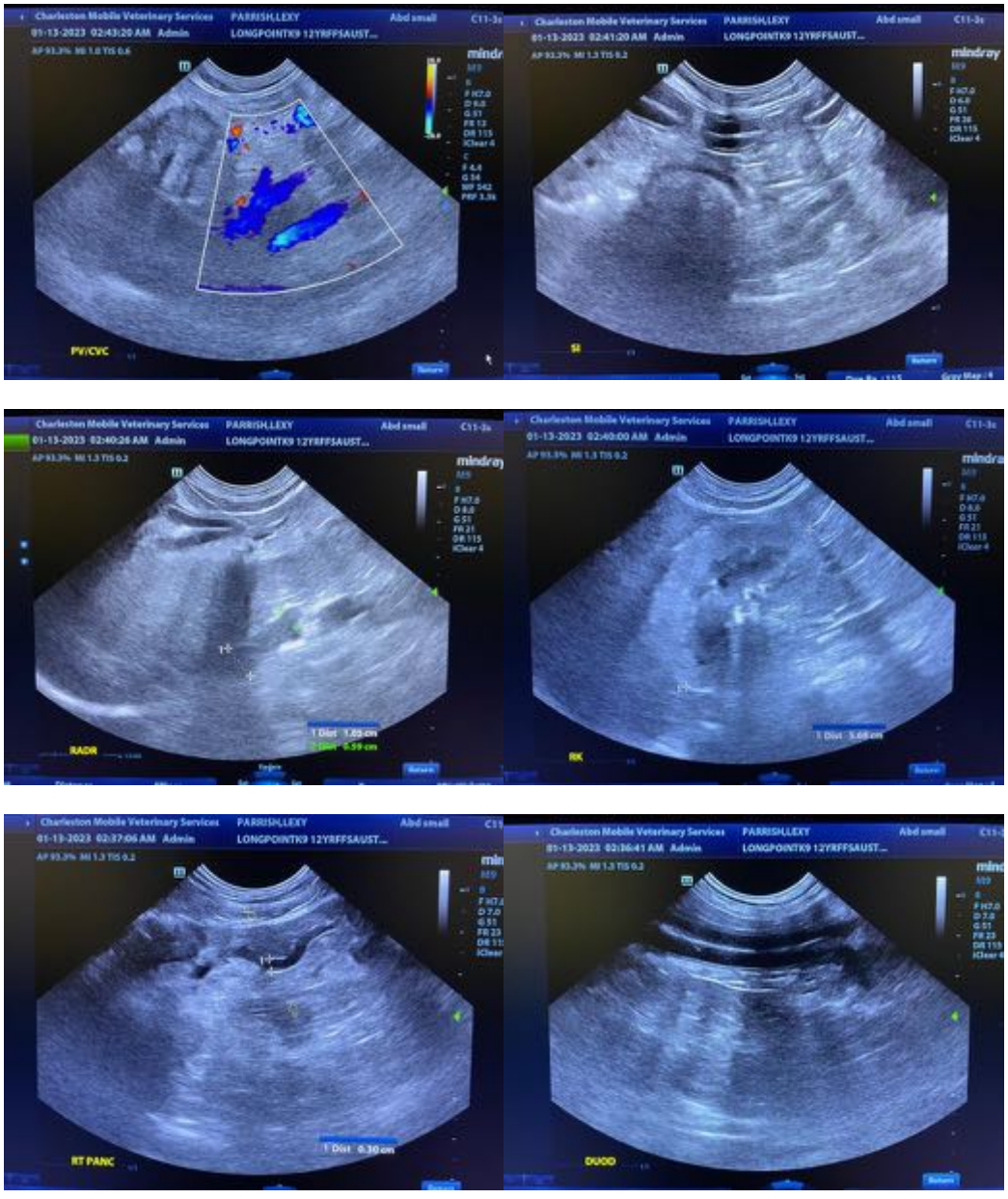
should be discontinued and hepatic tissue sampling reconsidered. If values do improve, a 4–6-week course of treatment is recommended.



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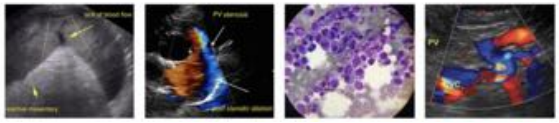

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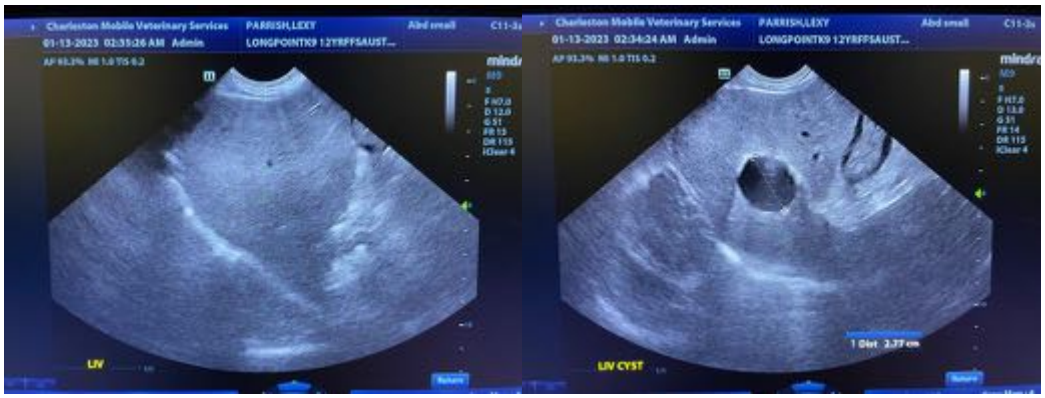

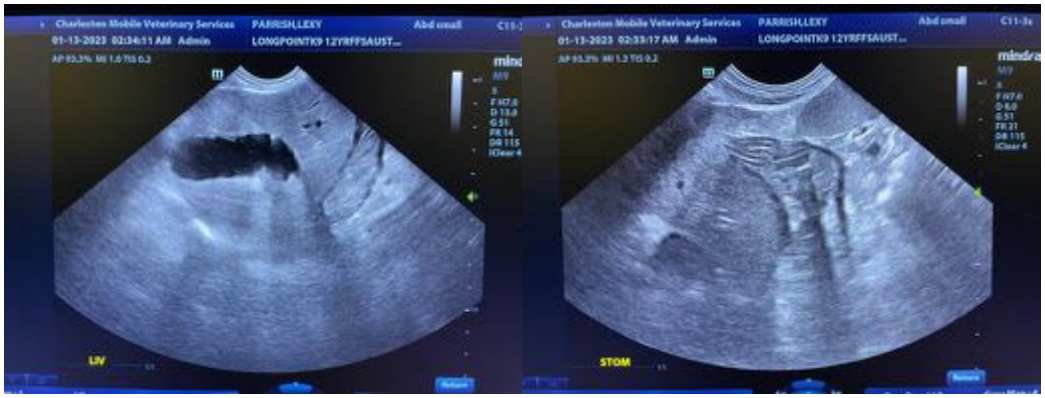

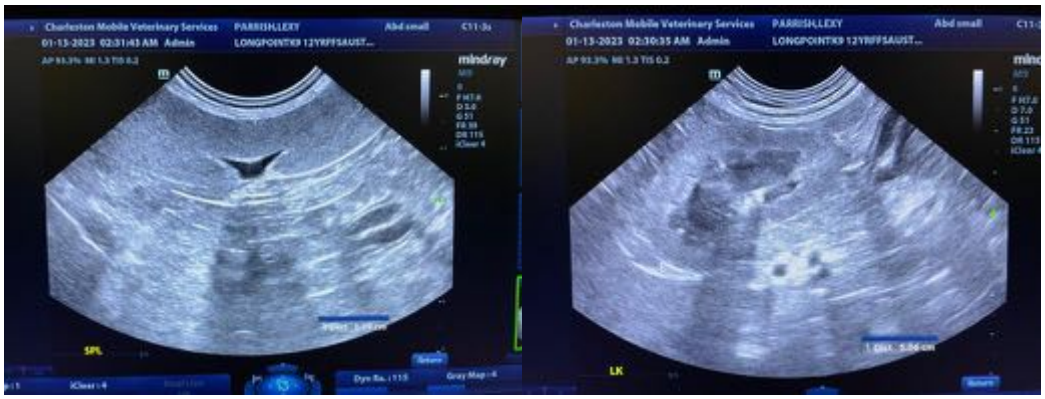

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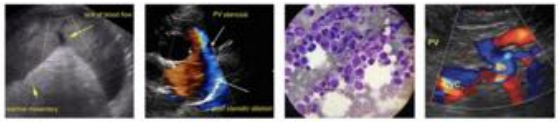

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
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