**PATIENT PRESENTING CLINICAL SIGNS**

Frankie Clovie
 History: Anemic and elevated liver values. Currently on hepatic, support, and liquidtinic.
 Abnormal PE/Chem/CBC/UA Results: ALT 458 and ALP 368.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN*Urinary System***BREED**

Mini Schnauzer

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 suspended echogenic debris is observed 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.

SEX

Male neutered

The prostate is normal in size (2.05 cm in length; 0.87 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

AGE

11 Yrs.

The left kidney is normal size (4.12 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. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

WEIGHT

14 lbs.

The right kidney is normal in size (4.06 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is normal size (0.42 cm at cranial pole) (0.51 cm at caudal pole) (1.80 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 (0.60 cm at cranial pole) (0.52 cm at caudal pole) (1.91 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.

IMAGING PERFORMED BY

Potomac Mobile
 Veterinary Ultrasound

Spleen

The spleen is normal in size (1.11 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. At least one small myelolipoma is observed. Splenic vasculature is normal.

HOSPITAL NAME

Silver Spring AH

*Liver***REFERRING VET**

Dr. Cathy Jarrett

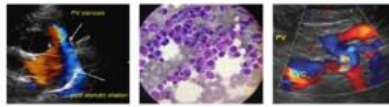
The liver is subjectively normal to mildly prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic to slightly hyperechoic relative to the spleen and subtly heterogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal 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 small amount of aggregated echogenic debris/sludge is observed within the lumen, some of which is adhered to the wall and some of which is suspended. The cystic and common bile ducts are normal/not seen.

INVOICE

12940

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2/1/22

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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. 1-2 jejunal lymph nodes are visible, the largest measuring 0.60 cm in length. A caudal abdominal lymph node measuring 0.95 cm in length is also seen.

ULTRASONOGRAPHIC FINDINGS**Primary Findings:**

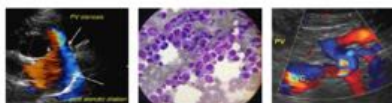
- Non-specific diffuse hepatopathy. Differentials include inflammatory/immune mediated disease (i.e., bacterial cholangiohepatitis, chronic active hepatitis), hepatotoxicosis (i.e., copper), infiltrative neoplasia (less likely), other hepatopathy +/- concurrent age-related change (i.e., vacuolar hepatopathy, regenerative nodular hyperplasia).

Secondary Findings:

- Minor right degenerative renal changes with dystrophic mineralization.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Consider pre- and post-prandial serum bile acids to assess hepatic function along with Leptospirosis testing (blood and urine PCR, serology). Hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy) can also be considered if clotting status is appropriate. If surgical biopsies are pursued, acquisition of aerobic and anaerobic bile cultures and additional tissue samples for potential copper quantitation are recommended. If medical management is to be pursued, empirical treatment for bacterial cholangiohepatitis/Leptospirosis (i.e., amoxicillin clavulanic acid, hepatic antioxidants) is recommended. However, if no improvement in the patient's liver values is seen within 5-7 days of initiating therapy, antibiotics should be discontinued and hepatic tissue sampling revisited.



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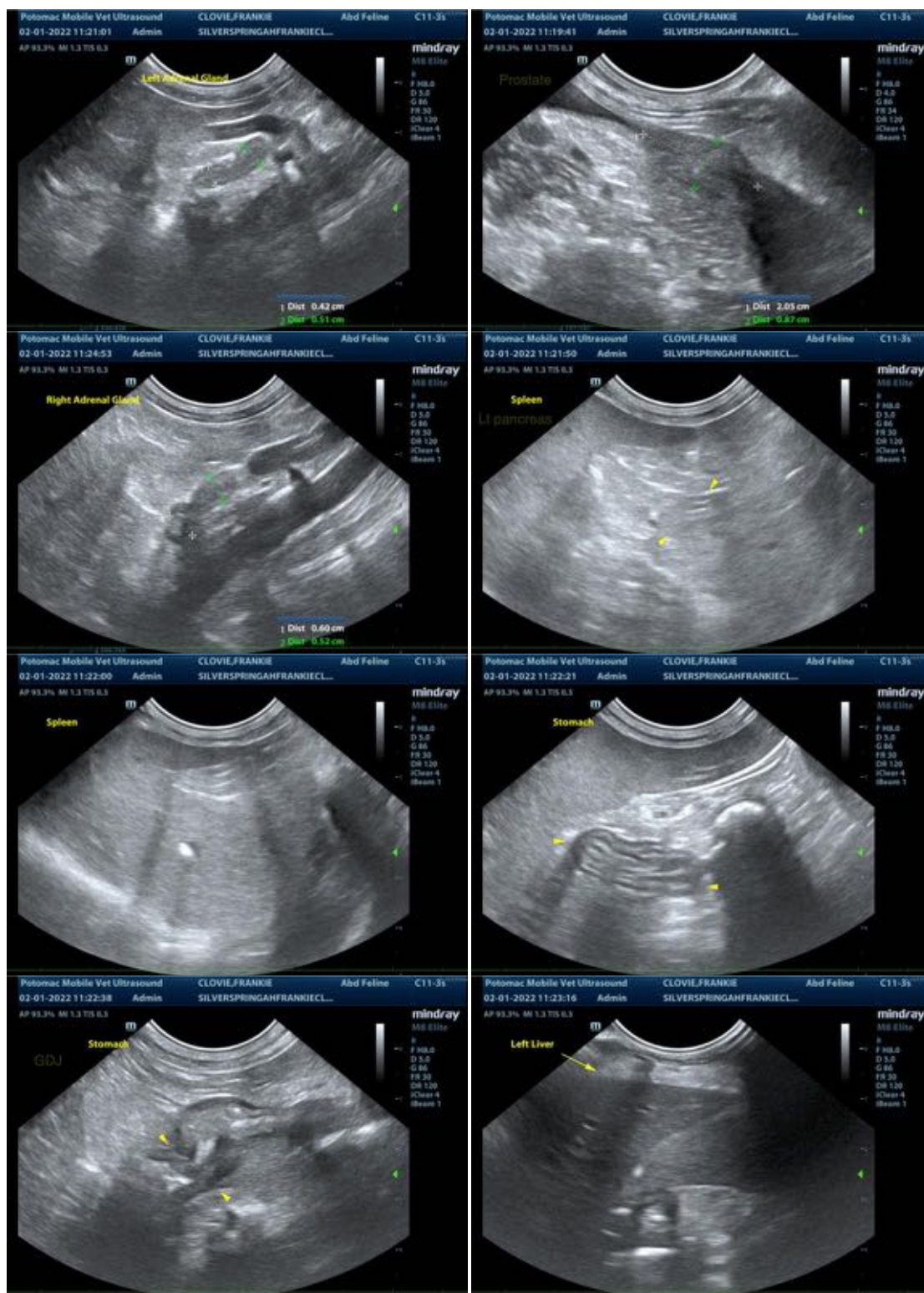
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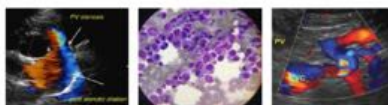
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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