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Clinical Sonography & Telecytology
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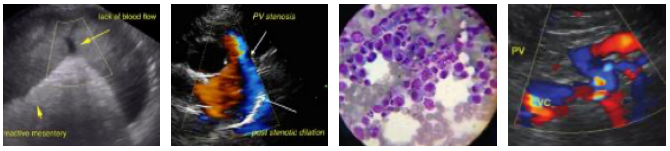

PATIENT
Lucy Rankin

SPECIES
Canine

BREED
Shih Tzu

SEX
Female, spayed

AGE
4 Yrs.

WEIGHT
24 lbs.

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

IMAGING PERFORMED BY
Tasha

HOSPITAL NAME
Dillsburg VC

REFERRING VET
Dr. Jacobs

INVOICE
12936

DATE
2/1/22

PRESENTING CLINICAL SIGNS

History: HX of tremors and elevated liver results; concern for primary hepatopathy vs steroid induced or doxycycline induced vs infectious disease. Rec abdominal ultrasound to make sure no obvious mass, may need liver biopsy as next step after ultrasound, possibly lepto titer. O said that p is doing better with tremoring after being started back on the steroid, and is doing well clinically. E/d/u/d normally.

CBC WNL, ALT 2837, AlkP 5141, T-bili 0.4.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The left kidney is normal size (4.24 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. Renal vasculature is normal.

The right kidney is normal size (4.59 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. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal size (0.41 cm at cranial pole) (0.47 cm at caudal pole) (1.68 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 (0.99 cm at cranial pole) (0.46 cm at caudal pole) (2.51 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 (1.49 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A 0.97 x 0.91 cm hypoechoic nodule is observed at the mid to caudal aspect. Splenic vasculature is normal.

Liver

The liver is subjectively normal in size with normal contours and structure. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No 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. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

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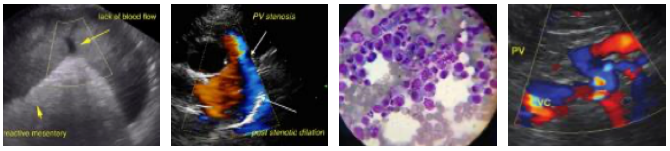

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Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is minimally distended with ingesta. 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.

ULTRASONOGRAPHIC FINDINGS

- Non-specific diffuse hepatopathy. Given the patient's age, an infectious/inflammatory disease or toxic insult is suspected. Infiltrative neoplasia is possible but considered unlikely given the sonographic appearance of the liver.
- The hypoechoic splenic nodule could be consistent with a benign process (i.e., a focus of lymphoid hyperplasia or extramedullary hematopoiesis). Alternatively, emerging neoplasia is possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Clotting times (PT/PTT) are recommended to assess for coagulopathy.
- Consider pre- and post-serum bile acids +/- ammonia level to assess hepatic function.
- Leptospirosis testing (i.e., blood and urine PCR, serology) should also be considered.
- Fine needle aspirates of the liver and splenic nodule are recommended if clotting status is appropriate. 25-gauge needles should be used. If cytology results are inconclusive, a surgical liver biopsy +/- splenectomy may be necessary to get a definitive diagnosis. If surgery is pursued, aerobic and anaerobic bile cultures as well as acquisition of additional hepatic tissue samples for potential copper quantitation are recommended. Prior to anesthesia, chest X-rays should be performed to assess cardiopulmonary status.

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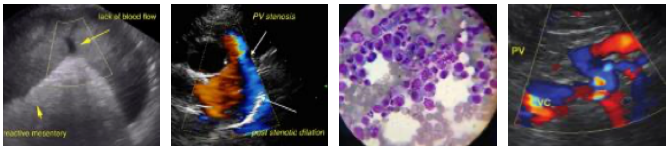

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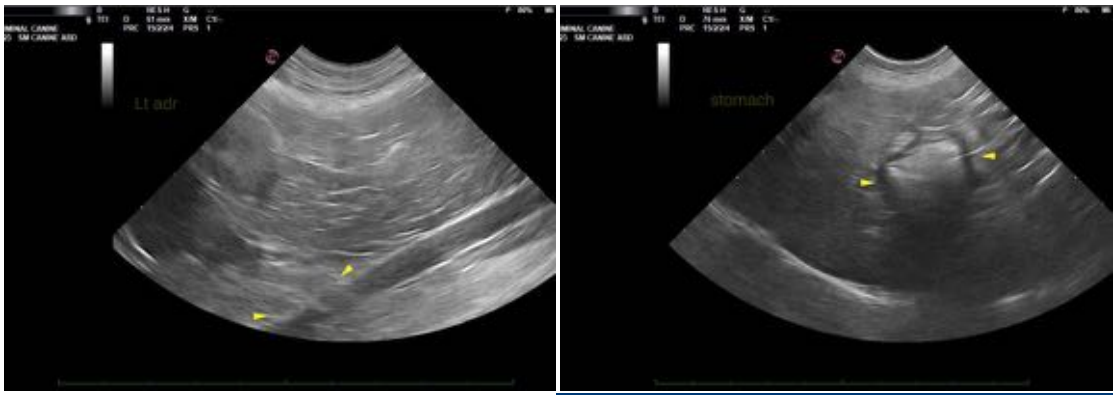

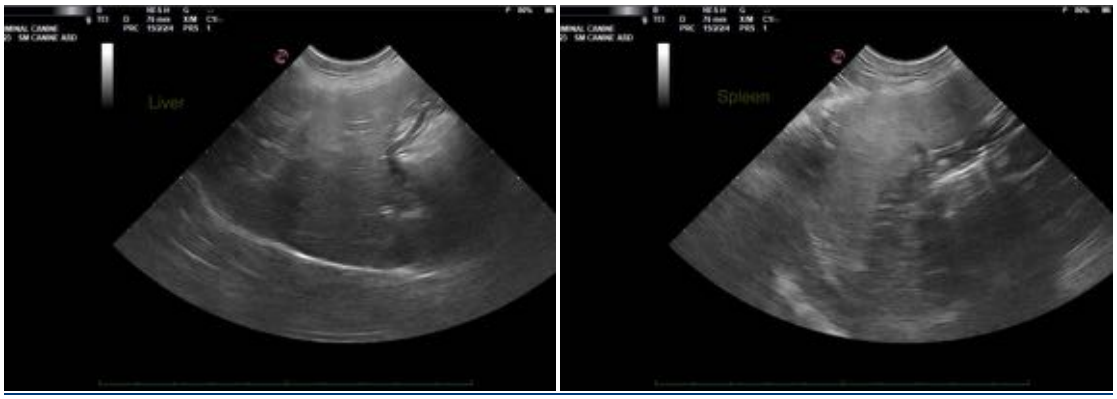

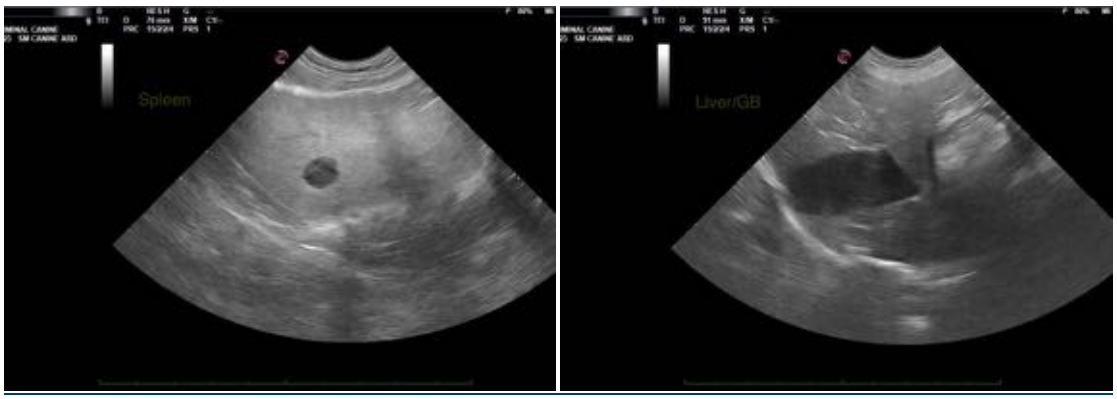

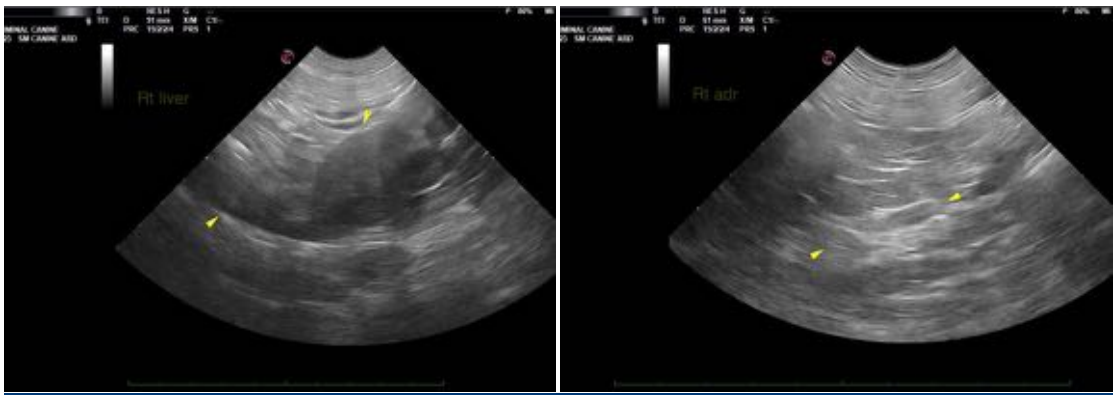

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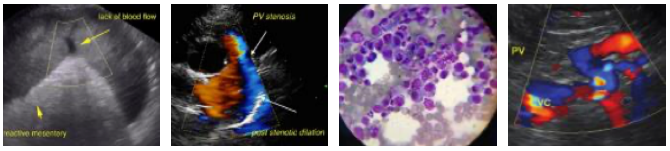

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Andrea.nicastro@sonopath.com