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Clinical Sonography & Telecytology
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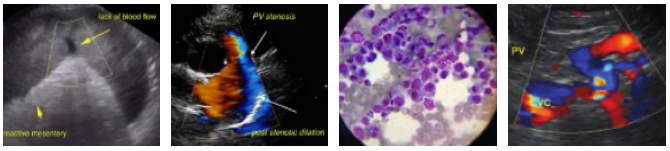

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Coco Kuykendall

SPECIES
Canine

BREED
Pitbull mix

SEX
Female, spayed

AGE
13 Yrs.

WEIGHT
43 kg.

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

IMAGING PERFORMED BY
Dr. Jolee Stegemoller

HOSPITAL NAME
North Idaho AH

REFERRING VET
Dr. Jolee Stegemoller

INVOICE
13852

DATE
8/16/22

PRESENTING CLINICAL SIGNS

History: History: Senior dog, wellness screening with elevated liver enzymes over the last month. No clinical changes the owner has notices aside from decreased mobility and being overweight. Abnormal PE/Chem/CBC/UA Results: Laboratory: 7/24/22 (reference lab) - Alb 2.4, Glob 4.3, ALT 289, AST 69, ALP 383, T4 2.0; Recheck 8/16 (in-house Idexx analyzer)- Alb 2.2, Glob 5.2, ALT 227, ALP 341 Physical exam: BCS 9/9, severe stifle OA, chronic ulcerative paradental stomatitis and periodontal disease/fractured canine tooth.

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 size (7.64 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 (7.98 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 in length (0.39 cm at cranial pole) (0.43 cm at caudal pole) (2.41 cm in length) with a flattened contour. 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 (0.35 cm at cranial pole) (0.29 cm at caudal pole) (2.15 cm in length) with a flattened contour. 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 (2.20 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. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

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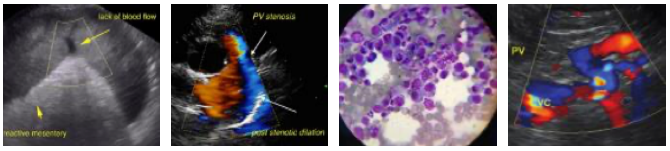

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Gastrointestinal

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

ULTRASONOGRAPHIC FINDINGS

The flattened adrenals bilaterally may be a normal variant for this patient or may be secondary to relative adrenal insufficiency or early atrophy (i.e., due to hypoadrenocorticism).

*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, infiltrative neoplasia (less likely)) should be considered.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Pre and post prandial serum bile acids are recommended to assess hepatic function.
- Leptospirosis testing (i.e., blood and urine PCR, serology) should also be considered.
- Ultimately, hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy may be necessary to get a definitive diagnosis. Hepatic cytology is useful in diagnosing round cell neoplasia and vacuolar hepatopathy but may be less useful in assessing for inflammatory disease and other hepatopathies. Surgical biopsies are more likely to yield a definitive diagnosis. If pursued, additional hepatic tissue samples for potential copper quantitation should be obtained along with aerobic and anaerobic bile cultures. Three-view thoracic radiographs and clotting times (i.e., PT/PTT) should be performed prior to anesthesia.
- If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, Denamarin, Ursodiol, +/- metronidazole). 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.

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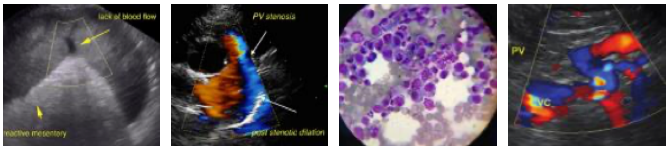

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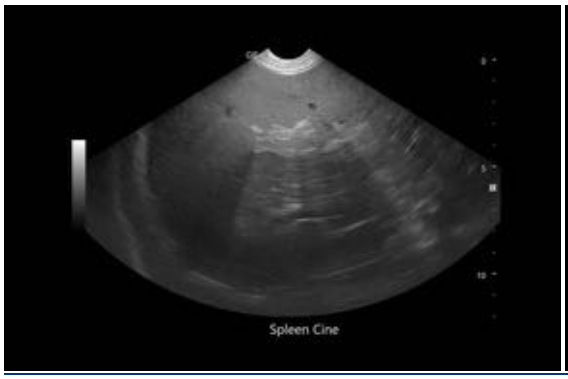

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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