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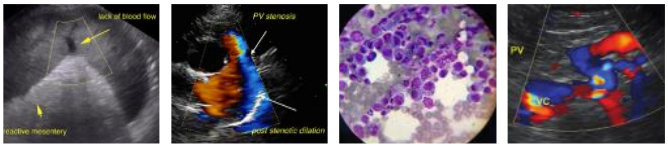
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Coco Dumo

SPECIES
Canine

BREED
Shih Tzu

SEX
Neutered Male

AGE
9 years

WEIGHT
22.6 lbs

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

IMAGING PERFORMED BY
Diane McFadden

HOSPITAL NAME
Mt. Olive VH

REFERRING VET
Dr. Jones

INVOICE
11104

DATE
6/17/22

PRESENTING CLINICAL SIGNS

History: persistent inappetence and abdominal pain; hospitalized since 6/14 for suspected pancreatitis. On metronidazole, cerenia, famotidine, buprenorphine, carprofen
Abnormal PE/Chem/CBC/UA Results: 6/15: AST 75, ALT 471, ALKP 361, PSL 413

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly to moderately distended. The wall is normal in thickness. The mucosal surface in the region of the apex is mildly irregular. A 1.15 cm irregular, cystic calculus is visualized within the lumen. A few smaller stones are also suspected. The region of the trigone and the proximal urethra, visible to a depth of 2 cm, are normal.

The prostate is normal in size (1.02 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal size (5.61 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 hydroureter. Renal vasculature is normal.

The right kidney is normal in size (5.83 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.

Adrenal Glands

The left adrenal gland is mildly enlarged (0.76 cm at cranial pole) (0.79 cm at caudal pole) (2.41 cm in length); with a slightly irregular 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 mildly enlarged (1.16 cm at cranial pole) (0.86 cm at caudal pole) (2.94 cm in length); with a normal shape and smooth peripheral contours. A 0.66 x 0.56 cm ill-defined hyperechoic nodule/area is observed at the cranial pole. The glandular echogenicity and detail at the caudal pole are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is normal in size (1.51 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 prominent in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen and homogenous in appearance. No distinct focal lesions are observed. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

The gall bladder is of normal contours and contains some dependent echogenic debris. The wall is normal in thickness. No choleliths are observed. 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 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 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

There is no evidence of free fluid. Several, prominent abdominal lymph nodes are observed, including those at the mesenteric root and just medial to the spleen. The largest node measures approximately 4 cm in length. The mesentery surrounding the nodes is hyperechoic.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Cystic calculus/calculi
- 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)) cannot be excluded.

Secondary Findings

- Minor, bilateral, age-related renal changes
- Mild bilateral adrenomegaly The hyperechoic right adrenal nodule/area trends toward the benign (i.e., regional nodular hyperplasia) with a lower possibility of emerging neoplasia.

  *An obvious cause for the patient's clinical signs is not identified in this study. Considerations include mild pancreatitis, microscopic gastrointestinal disease, underlying metabolic issue, other.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the elevated liver values, consider pre-and postprandial serum bile acids, Leptospirosis testing (i.e., blood and urine PCR, serology), as well as hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy). Surgical biopsies are more likely to yield a definitive diagnosis. If pursued, aerobic and anaerobic bile cultures and as well as acquisition of additional hepatic tissue samples for potential copper quantitation are recommended. Abdominal lymph nodes should also be biopsied at the time of surgery. If the patient is

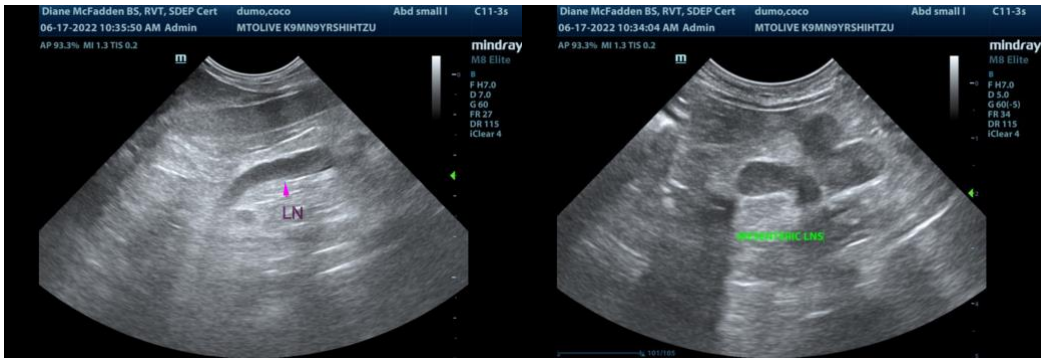
stable under anesthesia, a cystotomy with stone removal, analysis and culture is also recommended. Thoracic radiographs and clotting times are recommended prior to anesthesia.

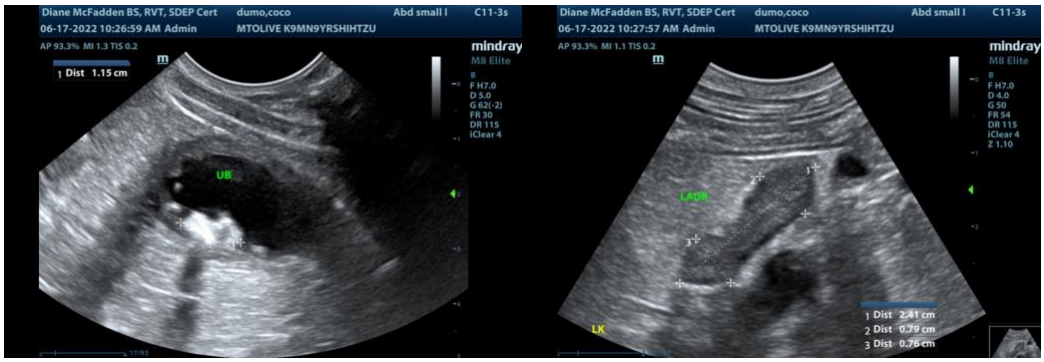
If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, +/-metronidazole, Denamarin). If no improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued, and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.

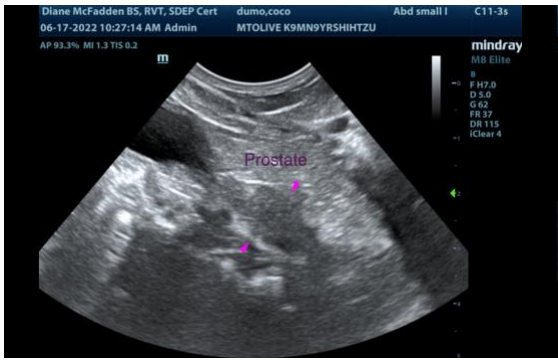
If surgery is not pursued at this time, consider empirical medical management for the cystic calculus (i.e., broad-spectrum antibiotics, prescription urinary diet) until the patient is stable enough to undergo a cystotomy.

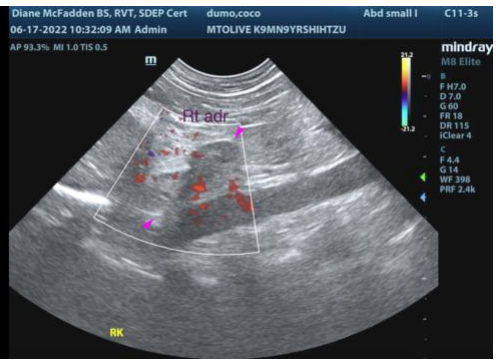
Also consider a malabsorption panel, including serum cobalamin and folate, TLI and PLI, to further assess for underlying pancreatic and small intestinal disease.

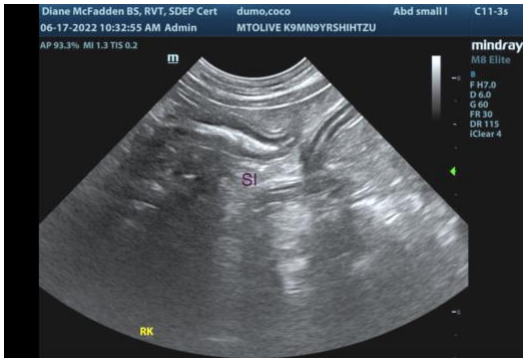
Orthopedic and neurologic examinations are also recommended to assess for non-abdominal causes of pain.











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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