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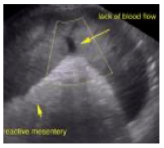
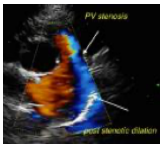
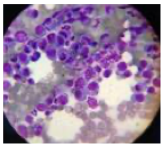
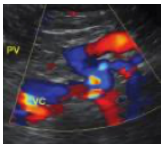
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Chily Rosado Vazquez

SPECIES
Canine

BREED
Boston Terrier

SEX
Intact Male

AGE
10 years

WEIGHT
19 lbs

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

IMAGING PERFORMED BY
Dr. Ferrer, DVM

HOSPITAL NAME
Paseos VC

REFERRING VET
Dr. Jonathan De Jesus Nazario

INVOICE
11210

DATE
7.7.22

PRESENTING CLINICAL SIGNS

History: Presented as a referral for an abdominal ultrasound to evaluate elevated liver enzyme (ALT) and thrombocytopenia. Pt was on Prednisone and he was doing well, but when discontinued then he decrease his appetite and became depressed. PT is on Denamarin.

Abnormal PE/Chem/CBC/UA Results: PE: No provided June 16,2022 CHEM: ALT 1565, ALP: 896, TBIL: 1 (0.1-0.6), TP: 10.7 (5.4-8.2) CBC: PLT: 82 (200-500) BW: June 27,2022 Chem: ALP: 713 (20-150) ALT: 834 (10-118) CBC: PLT: 88 (200-800) BW: July 5, 2022 ALP: 543, ALT 1035, Phos: 2.8 (2.9-6.6), TP: 5.4 (5.4-8.2), Glob 6.8 (2.3-5.2) CBC: Plt 57 (200-500) MCHC: 30(31-39), LYM: 0.97 (1-4.8) Radiographs: attached to this request as supportive information.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is mildly to moderately distended with mostly anechoic urine. The wall, particularly in the region of the apex, is mildly thickened (0.35 cm) with a slightly irregular mucosal surface. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The **prostate** is enlarged (2.87 cm in width) with a slightly irregular shape. Parenchyma is hyperechoic relative to surrounding omental fat and subtly mottled in appearance. No distinct focal lesions are observed. The prostatic urethra is not overtly dilated.

The **left kidney** is normal size (5.26 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Mild pyelectasia is present (0.19 cm in the transverse plane). There is no evidence of nephroliths, infarcts or hydroureter.

The **right kidney** is normal size (5.19 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. Mild pyelectasia is present (0.22 cm in the transverse plane). There is no evidence of nephroliths, infarcts or hydroureter.

Adrenal Glands

The **left adrenal gland** is normal size (0.31 cm at cranial pole) (0.41 cm at caudal pole) (1.87 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 enlarged at the cranial pole and normal in size at the caudal pole (1.21 cm at cranial pole) (0.43 cm at caudal pole); with a slightly cavitated and irregular shape. A 1.18 x 1.07 cm hyperechoic to slightly heterogenous nodule is observed at the cranial aspect. Glandular echogenicity and detail at the caudal aspect are normal. The phrenicoabdominal vein and surrounding vasculature appear normal.

Spleen

The **spleen** is subjectively prominent in size (1.85 cm in width at the level of the hilus) with an undulating medial contour and rounding at the poles. The parenchyma is subtly mottled in appearance. No distinct focal lesions are observed. Splenic vasculature is normal with no evidence of thrombosis.

Liver

The **liver** is subjectively prominent in size with irregular peripheral contours. The parenchyma is slightly hypoechoic relative to the spleen and mildly heterogenous, bordering on a nodular appearance. In the

region of the caudate lobe, a few ill-defined, hypoechoic areas are visualized. 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 mildly thickened (up to 0.17 cm) and hyperechoic. At least one polypoid-like lesion is visualized. The wall is thin and smooth. A moderate amount of aggregated, echogenic, partially dependent sludge is observed within the lumen. 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 ileocecocolic junction and colonic wall are 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

Trace free fluid is observed. At least two to three prominent to enlarged, irregular, cystic **lymph nodes** are observed in the right cranial quadrant. In addition, a few prominent lymph nodes are observed at the aortic trifurcation, the largest measuring 1.14 cm in length. A few prominent mesenteric nodes are also seen, the largest measuring 1.24 cm. The mesenteric and caudal abdominal lymph nodes are of normal in shape and echogenicity.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Nonspecific diffuse hepatopathy. Differentials include inflammatory disease (chronic active hepatitis, bacterial cholangiohepatitis), infiltrative neoplasia (i.e., lymphoma), fibrosis, hepatotoxicosis (i.e., copper), other hepatopathy.

- The gall bladder sludge could be consistent with cholestasis, fasting or less likely, a developing mucocele. The gall bladder wall changes are suggestive of cholecystitis but may be secondary to benign age-related hyperplasia

- The right adrenal nodule could be consistent with nodular hyperplasia or an emerging tumor (i.e., adenoma, adenocarcinoma, hemangiosarcoma, pheochromocytoma).

- The prominent abdominal lymph nodes could be consistent with emerging (i.e., lymphoid hyperplasia or reactive lymphadenitis). Alternatively, infiltrative neoplasia (i.e., lymphoma, metastatic disease) is possible, particularly with regard to the nodes in the right cranial quadrant.

- The trace ascites is likely secondary to hepatic pathology.

- The splenic parenchymal changes could be consistent with a benign process (i.e., lymphoid hyperplasia, extramedullary hematopoiesis or similar). Alternatively, infiltrative neoplasia (i.e., lymphoma) is possible.

Secondary Findings

- Bilateral, chronic, age-related renal changes. The bilateral pyelectasia may be secondary to architectural remodeling, pyelonephritis, PU/PD (if applicable) or some combination thereof.

- The urinary bladder wall changes could be consistent with cystitis or lack of full repletion. Correlation with the patient's clinical history and urinalysis findings is recommended.

- The prostate changes are most consistent with benign prostatic hyperplasia. Bacterial prostatitis is also a differential but considered unlikely in the absence of lower urinary tract signs.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

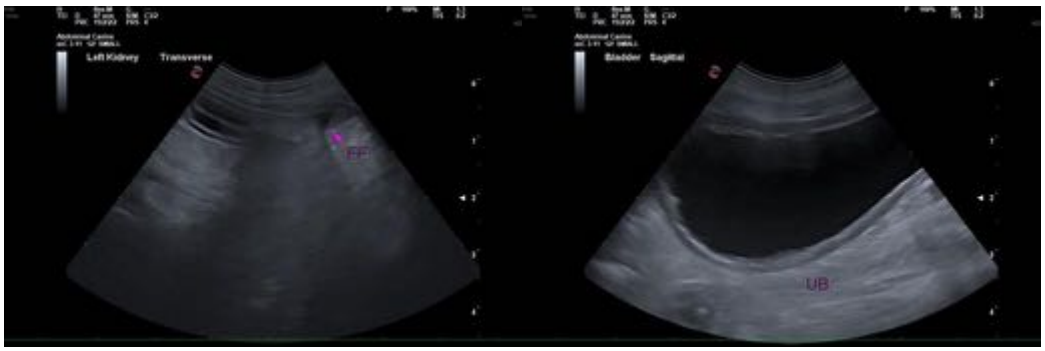
In order to further investigate the hepatic changes, tissue sampling (i.e., fine-needle aspirate or surgical biopsy) would be necessary. Surgical biopsies are preferred in that they are more likely to be representative of global organ pathology. If pursued, additional hepatic tissue samples for potential copper quantitation, as well as aerobic and anaerobic bile cultures should be collected. The platelet count should be stabilized prior to any tissue sampling. A PT/PTT should also be performed to assess coagulation status. If surgery is pursued, biopsy of the prominent abdominal lymph nodes, particularly the nodes in the right cranial quadrant, is also recommended.
Thoracic radiographs should be performed prior to anesthesia to assess for evidence of metastatic disease.

Given the renal and urinary bladder wall changes a urinalysis and urine culture and sensitivity are recommended.

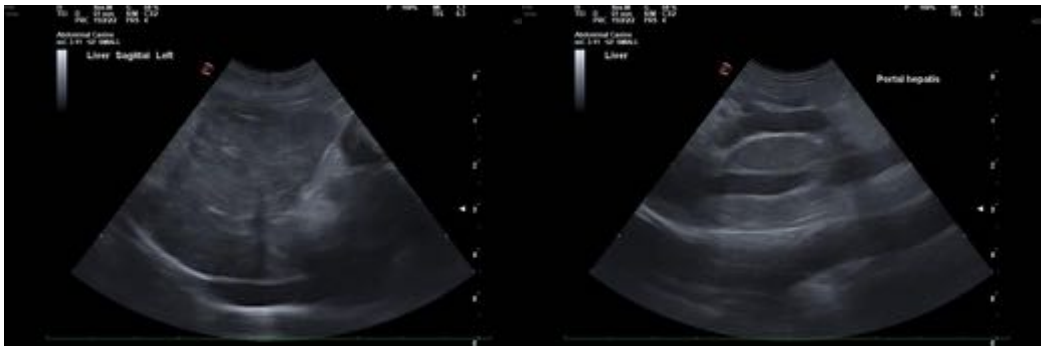
Regarding the the right adrenal lesion, consider the following:

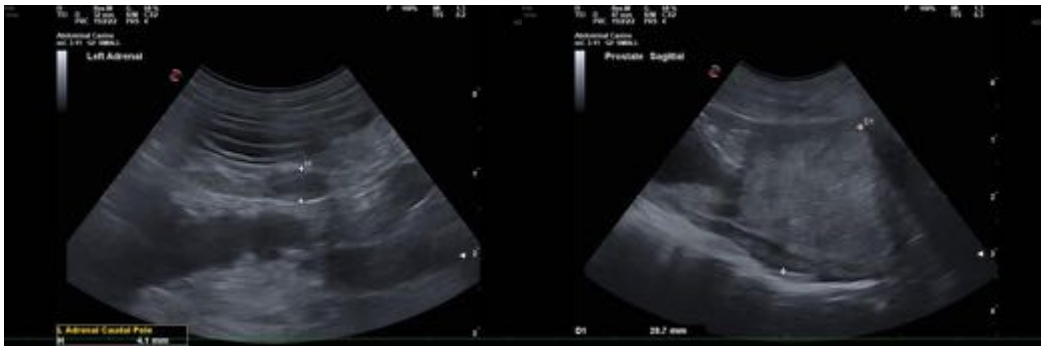
1. Low-dose dexamethasone suppression test and urine/blood catecholamine levels to assess for a functional tumor
2. Baseline blood pressure measurement

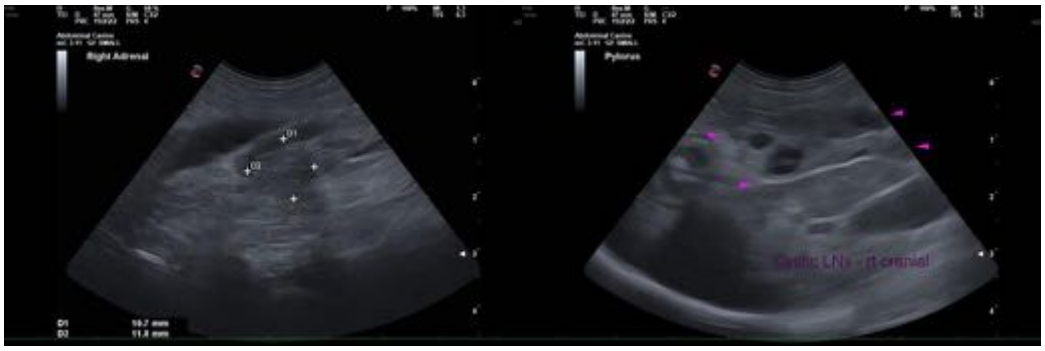
Regarding the gall bladder sludge, initiation of Ursodiol is a consideration. Alternatively, a repeat ultrasound can be performed in 2-3 weeks, preferably two hours post-small meal. If changes are similar to the current scan, Ursodiol can be initiated at that time.




Liver Sagittal Caudate lobe
Liver Gallbladder Sagittal
Thickn
Gallbladder Wall
Thickn 1.4 mm


Liver Sagittal Left
Liver
Portal hepatis


Left Adrenal
Prostate Sagittal
L Adrenal Caudal Pole
M 4.1 mm
D1 20.2 mm


Right Adrenal
Pylorus
D1 10.2 mm
D2 11.8 mm

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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