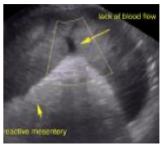
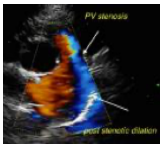
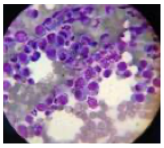
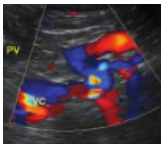
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Buddy DeSantis

SPECIES
Canine

BREED
Lab Mix

SEX
Neutered Male

AGE
14 years

WEIGHT
56.4 lbs

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

IMAGING PERFORMED BY
Dr. Goodman

HOSPITAL NAME
Evendale-Blue Ash PH

REFERRING VET
Dr. Goodman

INVOICE
11830

DATE
10.13.22

PRESENTING CLINICAL SIGNS

History: Recheck abdominal ultrasound. Performed yearly on 9/11/2020, 6/11/2021. Annual bloodwork was run on 8/10/22, new findings include ALT and ALP remain elevated but stable, SDMA slightly elevated, creatinine trending up but still in the normal range, protein in urine and mild anemia. On 9/8/22 he presented for a possible seizure type episode. Ran bloodwork in house and SDMA was elevated further, along with the ALT and ALP. Protein still present in urine, sent out UPC and returned with a value of 1.9. Started on benazepril 10mg SID, Denamarin and k/d. BP was borderline. New murmur noted on auscultation. Concerns for a stroke. Recheck renal panel and UPC on 9/26/22 showed normal kidney values and UPC decreased to 1.4. BP was high and patient was very anxious. Increased benazepril to 15mg SID and recheck UPC on 10/11, results came back at 2.1. Presented today for ultrasound, added in telmisartan with the plan to take him off benazepril and sent out CBC/Chem . Anemia worsened, kidney values stable, ALP and ALT decreased but still elevated. Current medications: Telmisartan 20mg SID Denamarin Advanced Lg - 1 tab SID Ursodiol 250mg, 1/2 tab BID

Abnormal PE/Chem/CBC/UA Results: bloodwork attached UPC: 9/8/22 - 1.9 9/27/22 - 1.4 10/11/22 - 2.1

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 **prostate** is normal in size (1.09 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 (6.67 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. The cortex is hyperechoic. A 0.94 cm cortical cyst is observed at the caudal pole. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The **right kidney** is normal size (6.93 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. The cortex is hyperechoic. A few, small cortical cysts are seen. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

Adrenal Glands

The **left adrenal gland** is normal size (0.68 cm at cranial pole) (0.77 cm at caudal pole) (2.49 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 (0.98 cm at cranial pole) (0.80 cm at caudal pole) (2.81 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 (1.63 cm in width at the level of the hilus) with a normal capsular contour. The parenchyma is subtly mottled in appearance. No focal lesions are observed. Splenic vasculature is normal.

Liver

The **liver** is subjectively prominent in size with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely heterogenous in appearance with several ill-defined nodules/areas. Several, small cysts are also observed throughout the organ. There is swelling of a liver lobe, which appears to be just to the left of the gall bladder. The margins of this lobe are rounded and the parenchyma is slightly more hypoechoic relative to the rest of the liver. 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 **gastric lumen** is mildly distended liquid-appearing 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 segmentally dilated with gas and chyme (mild). The small intestinal wall is normal in thickness 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

The **peritoneal cavity** is normal. There is no evidence of inflammation or effusion. The abdominal **lymph nodes** are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The diffuse hepatic parenchymal changes are nonspecific and could be secondary to a benign process (i.e., regenerative nodular hyperplasia, vacuolar hepatopathy, or some combination thereof) with a lower possibility of an inflammatory process. Infiltrative neoplasia is also possible. . Differentials for the swollen liver lobe are the same as the differentials listed above. However, emerging neoplasia is also a possibility. The liver changes are a new finding compared to the previous sonogram.

Secondary Findings

- Minor bilateral age-related renal changes. (Changes are similar to the previous sonogram.)

- Gall bladder debris – incidental

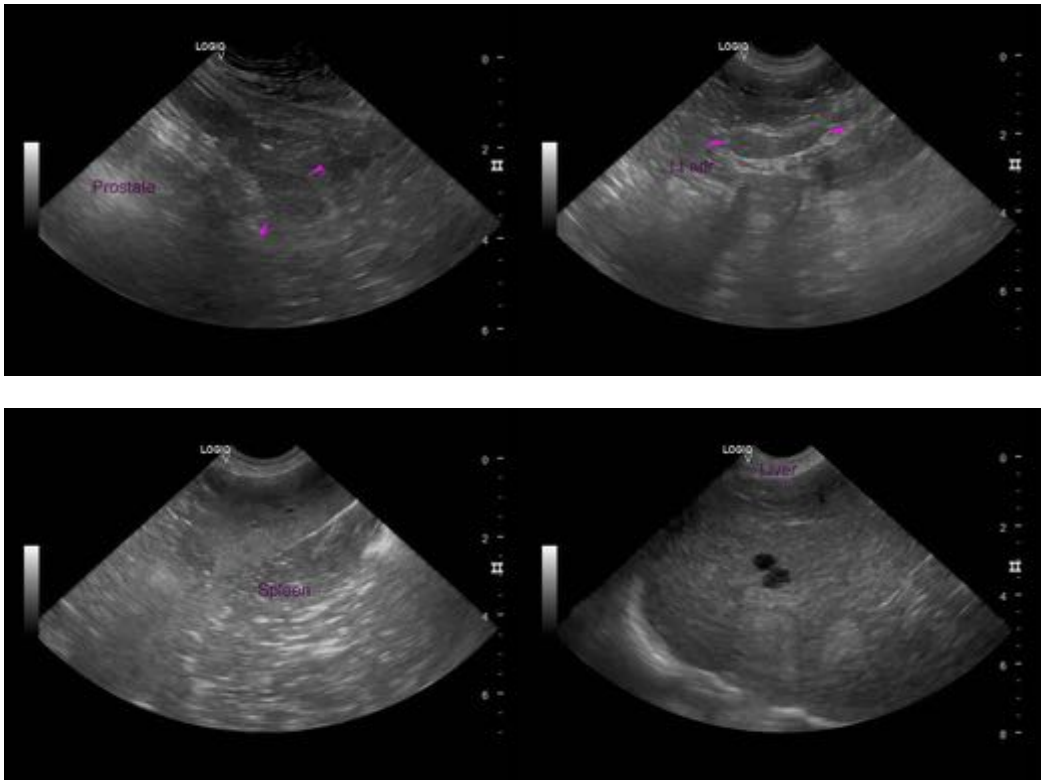
- The splenic parenchymal changes are most consistent with a benign process such as lymphoid hyperplasia, extramedullary hematopoiesis, splenitis or antigenic stimulation with a low possibility of infiltrative neoplasia (i.e., lymphoma, mast cell neoplasia). This is a new finding compared to the previous sonogram.

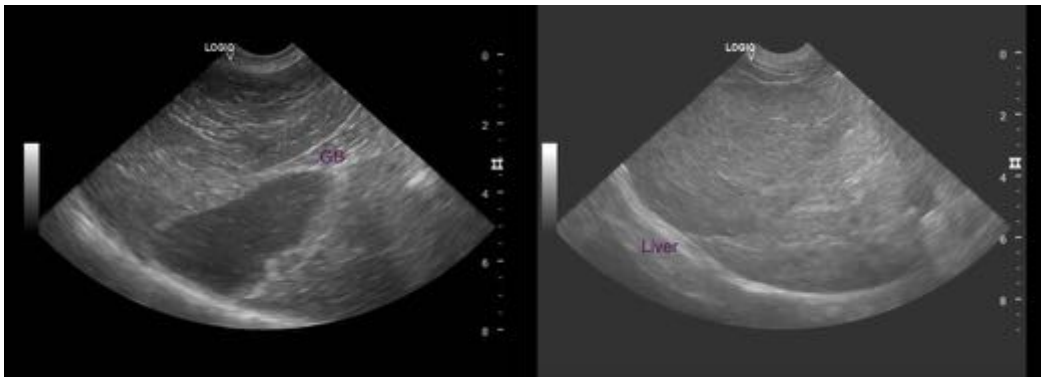
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

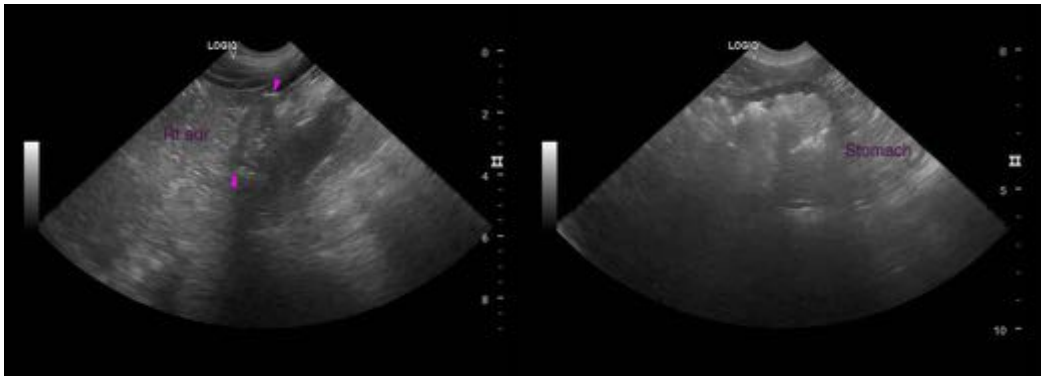
To further evaluate the hepatic changes, consider tissue sampling (i.e., fine-needle aspirate) or surgical biopsies. Fine-needle aspirates can be useful in diagnosing infiltrative neoplasia (i.e., lymphoma) but may be less beneficial in diagnosing diseases such as copper hepatopathy and chronic active hepatitis.

Regarding the proteinuria, consider initiation of omega 3 fatty acids for their renal protective effects. An antithrombotic (i.e., Clopidogrel) can also be considered along with transitioning to a prescription renal diet (if the patient will tolerate it). Serial monitoring of the patient's renal values, UPC and blood pressure should be continued.

Given the patient's age, consider three-view thoracic radiographs to assess for occult disease in the chest.







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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