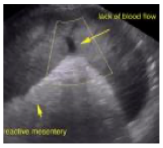
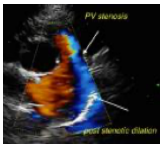
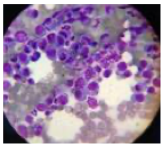
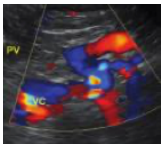
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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PATIENT

Duke Broshears

SPECIES

Canine

BREED

Beagle Mix

SEX

Neutered Male

AGE

10 years

WEIGHT

42.2 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Goodman

HOSPITAL NAME

Evandale-Blue Ash PH

REFERRING VET

Dr. Stephanie Wehmer

INVOICE

12544

DATE

3.28.23

PRESENTING CLINICAL SIGNS

History: Presented 10/7/22 for concerns with diarrhea, increased thirst and urination. Performed full bloodwork and CBC/Chem were unremarkable, urine dilute (1.013) and protein present. Rechecked a UA in house on 10/27/22, urine still dilute (1.012) and protein present, UPC sent to lab (1.3). Performed LDDST on 11/10/22, results came back inconclusive, patient is still PU/PD. BP performed that day and was normal. On 11/28/22, started patient on Enalapril 20mg (3/4-tab BID) but recheck UPC had not been checked after that. Presented 2/20/23 for continued PU/PD, patient is also ravenous. He lost 12lbs between Nov 2022 and Feb 2023. On 2/28/23, performed UCCR (61) and have been trying to use trazodone and Benadryl to help him settle at night. He is waking the owner up to go outside every few hours. Discussed bring in for u/s but were unable to get him in until April originally. Yesterday (3/27) presented for what sounded like hypoglycemic episodes where he would collapse and get up after several minutes and be back to his usual self. Discussed diabetic vs insulinoma, previous bloodwork never indicated diabetes before. Ran UA in house and check glucose on glucometer. Glucose was 562 and UA showed glucose and ketones present. Checked electrolytes, showed Na and Cl were low. Prior to pursuing insulin injections, owner wanted to pursue ultrasound to see if there was anything else going on. Patient has been on IVF since 8am and ultrasound was performed around 11am.

Abnormal PE/Chem/CBC/UA Results: other BW results attached BP on 11/10/22: 1) 152/70 (96) 2) 150/79 (105) 3) 154/79 (106) Weight trends: 11/10/22 - 62lbs 2/20/23 - 50.4lbs 3/27/23 - 39.4lbs 3/28/23 - 42.2lbs (unsure if there was a scale discrepancy between yesterday and today)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The is mildly distended with anechoic urine. The wall is diffusely thickened (up to 0.41 cm) with a slightly irregular mucosal surface. No cystic calculi are observed. The region of the trigone and the proximal urethra, visible to a depth of 2 cm, are normal.

The prostate is normal in size (0.97 cm in width) with a normal shape and smooth curvilinear peripheral contours. There is a questionable pinpoint hyperechoic-to-mineralized focus in the region of the prostatic urethra. The remaining parenchyma is homogenous. The prostatic urethra is not overtly dilated.

The left kidney is normal in size (6.71 cm in length) with a normal shape and smooth curvilinear peripheral contours. There is a questionable pinpoint hyperechoic-to-mineralized focus in the region of the prostatic urethra. The remaining parenchyma is homogenous. The prostatic urethra is not overtly dilated.

The right kidney is normal in size (6.81 cm in length) with a normal shape, architecture and 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.

Adrenal Glands

The left adrenal gland is normal in size (0.67 cm at cranial pole) (0.65 cm at caudal pole) with a normal shape and 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 (1.12 cm at cranial pole) (0.79 cm at caudal pole) with a normal shape and 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 (1.40 cm in width at the level of the hilus) with a normal capsular

contour. There is appropriate echogenicity and echotexture. A 1.64 cm hyperechoic nodule is observed at the caudolateral aspect. Splenic vasculature is normal.

Liver
The liver is subjectively enlarged with swollen peripheral contours. The parenchyma is isoechoic to hyperechoic relative to the spleen, with several small, ill-defined hypoechoic nodules throughout the organ. A small hyperechoic nodule is also seen on the right side. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

The gall bladder lumen is moderately distended. The wall is thin and smooth. A small amount of gravity-dependent echogenic debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal
The gastric lumen is mildly fluid-distended. The gastric wall is normal to subjectively slightly thickened, although wall thickness is difficult to determine due to rugal folds. There is retention of the normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. 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 right limb of the pancreas is normal in size with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

Free Abdomen
The peritoneal cavity is normal. There is no evidence of inflammation or effusion.
A 1.37 cm medial iliac lymph node is visualized.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The hepatic parenchymal changes are most consistent with vacuolar hepatopathy (i.e., idiopathic/endocrine) and/or regenerative nodular hyperplasia. Infiltrative neoplasia is possible but considered less likely. Inflammatory disease is also considered less likely in light of the normal ALT.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

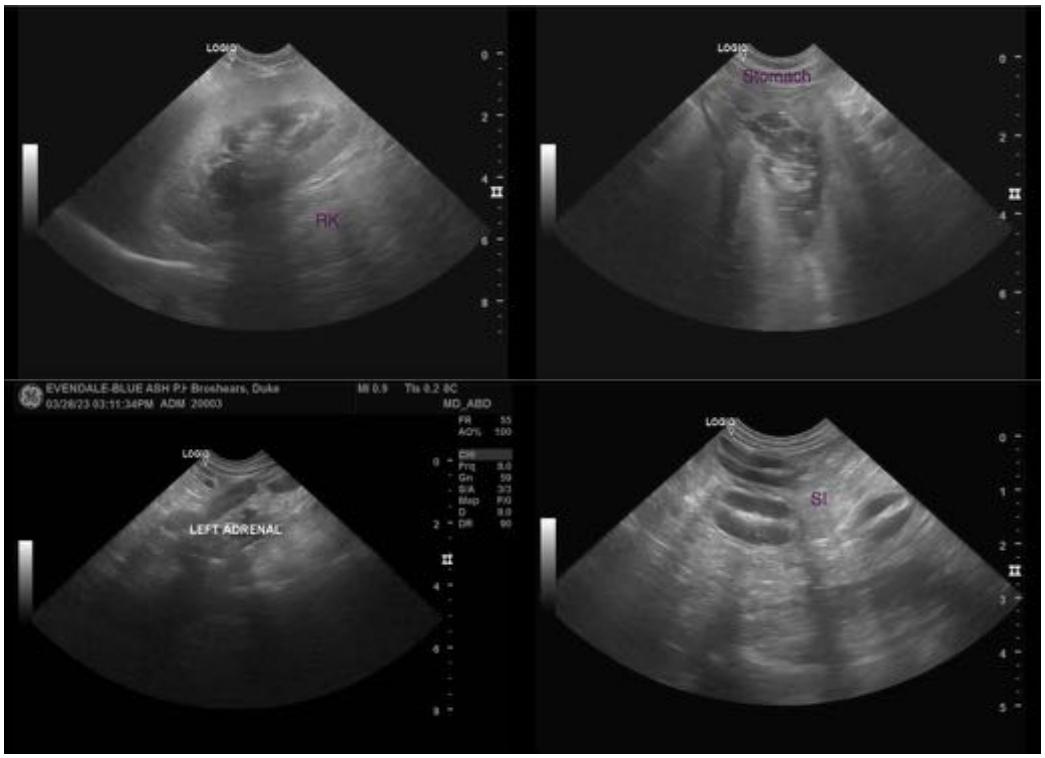
Secondary Findings

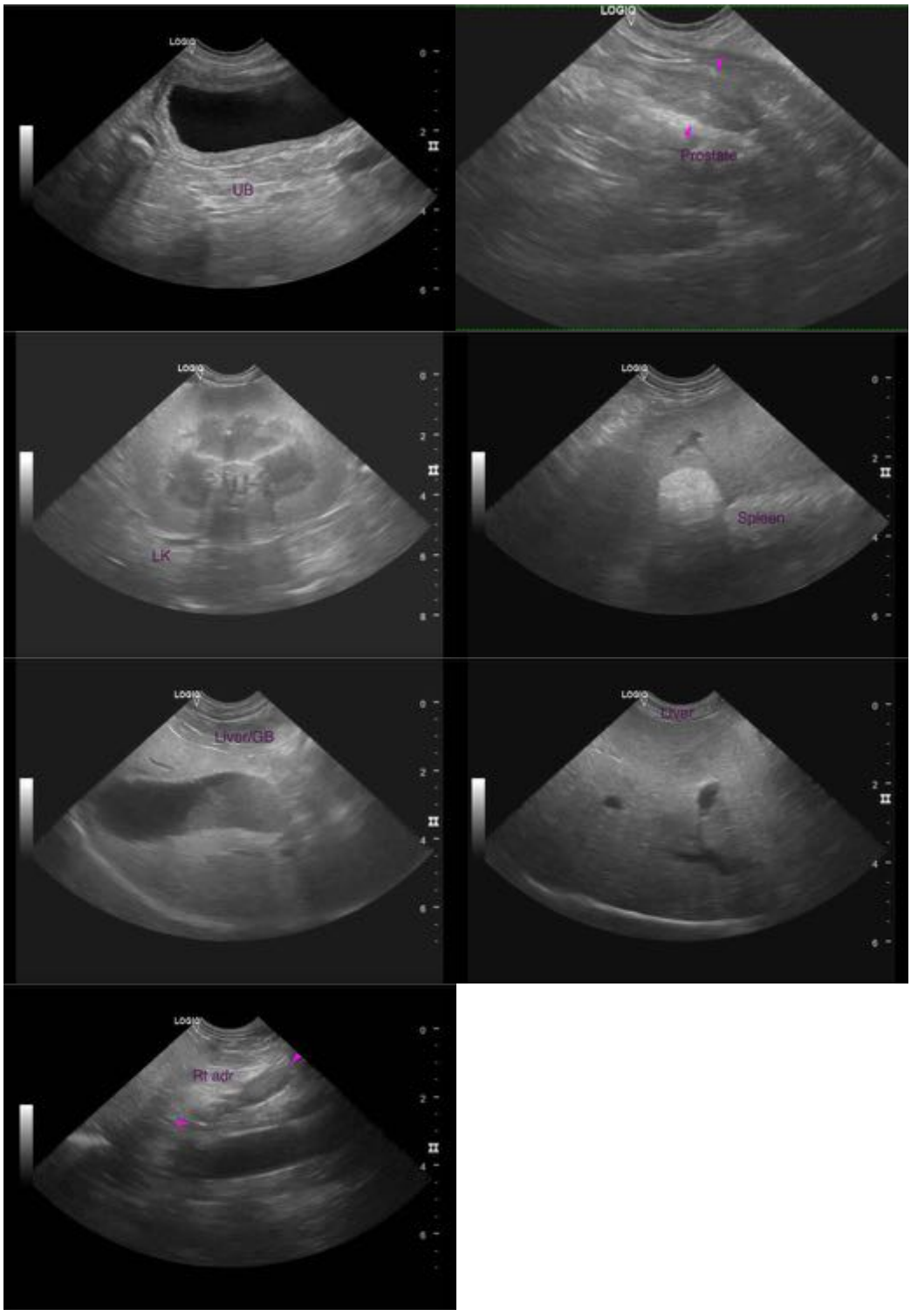
- Bilateral chronic, age-related renal changes
- Mild right adrenomegaly
- A questionable gastric wall thickening versus artifact due to rugal folds
- The urinary bladder wall changes are suggestive of cystitis. However, artifact due to lack of full repletion is also possible.

- The hyperechoic splenic nodule trends toward the benign (i.e., myelolipoma) with a lower possibility of an emerging tumor.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the new diabetic status, a urine culture and sensitivity is recommended to assess for occult infection.
- A T4/free T4 by equilibrium dialysis is also recommended, if not already performed.
- Supportive care for diabetic ketoacidosis should be initiated, including regular insulin, IV fluid therapy and symptomatic care.
- Given the episode of collapse, consider three-view thoracic radiographs +/- a full cardiac work-up, including an echocardiogram and ECG.





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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