

## PATIENT

Dax Smith

## SPECIES

Canine

## BREED

Havanese

## SEX

Neutered Male

## AGE

13.5 years

## WEIGHT

24.6 lbs

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Loetitia Saint-Jacques,  
RVT LVT

## HOSPITAL NAME

MountRose AH

## REFERRING VET

Dr Katie Weldon

## INVOICE

11755

## DATE

9.30.22

## PRESENTING CLINICAL SIGNS

History: About 2.5 weeks ago, Dax wasn't feeling well and wasn't eating well -- labs showed elevating liver values and renal values. His AlkP has been high historically, due to his Cushing's Disease (which is being treated with Vetoryl, and he is well controlled), but his ALT has typically been in the 200's, and the last level was 589. P currently is on treatment for a UTI and possible pyelonephritis with Convenia injections, as he can't tolerate Clavamox After the first Convenia injection 2 weeks ago, he went back to feeling completely normal, but his renal values did not decrease. · He had a similar episode in November 2021 with elevated renal values and ADR, which resolved with Convenia injections (given twice), and renal values at that time went back down to normal. · Has had a splenectomy, GI biopsy, and liver biopsy 10/9/2019. · DIAGNOSIS from 2019: 1. Spleen - Hematoma with extramedullary hematopoiesis 2. Liver - Multifocal hepatocellular vacuolar change with minimal extramedullary hematopoiesis 3. Jejunum - Mild, chronic, plasmacytic - eosinophilic with crypt hyperplasia, mild - moderate central lacteal and mural lymphangiectasia

Abnormal PE/Chem/CBC/UA Results: laboratory findings 9/23/2022: Abnormal Chemistry Values: AlkP = 3742 ALT = 589 AST = 89 GGT = 18 SDMA = 32 BUN = 52 Creat = 2.3 T4 = 0.8 Abnormal UA Values (9/8/22 - was not repeated on 9/23/22): Urine S.G. = 1.015, occ calcium oxalate crystals, pH = 5.5. No bacteria seen, but culture revealed E. Coli, sensitive to Convenia.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder** is mildly distended with anechoic urine. The wall is of appropriate thickness for the level of repletion. The mucosal surface is slightly irregular. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The **prostate** is normal in size (0.82 cm in width) with a normal shape and smooth peripheral contours. A pinpoint hyperechoic to mineralized focus is observed within the parenchyma. The remaining parenchyma is homogenous. The prostatic urethra is not overtly dilated.

The **left kidney** is normal size (4.38 cm in length); normal shape and smooth peripheral contours. The cortex is mildly thickened. There is moderate loss of corticomedullary distinction. A small cortical cyst is observed at the caudomedial aspect. Hyperechoic shadowing diverticular foci are visualized. Trace pyelectasia is present. There is no evidence of hydroureter.

The **right kidney** is normal size (4.63 cm in length); normal shape and smooth peripheral contours. The cortex is mildly thickened. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. Mild pyelectasia is present (0.30 cm in the transverse plane). There is no evidence of hydroureter.

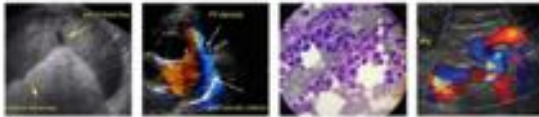
### Adrenal Glands

The **left adrenal gland** is normal size (0.72 cm at cranial pole) (0.98 cm at caudal pole); with an irregular shape. The parenchyma is mildly heterogenous with loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature appear normal.

The **right adrenal gland** is enlarged (0.61 cm at cranial pole) (0.93 cm at caudal pole); with an irregular shape. The parenchyma is mildly heterogenous with loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature appear normal.

### Spleen

Previously splenectomized. The region of the splenic fossa is unremarkable.



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### 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.

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The **gall bladder** lumen is moderately distended. The wall is thin and smooth. A small amount of aggregated, echogenic to hyperechoic, partially dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

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### Gastrointestinal

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 is normal to mildly thickened (up to 0.46 cm) with retention of the normal layering pattern. There is slight disruption in the normal 1:3 muscularis: mucosal ratio in some segments. There is also mild corrugation of at least one small intestinal segment. The colonic wall is normal. There is no evidence of an obstructive pattern.

## AGE

13.5 years

### Pancreas

The base and right limb of the **pancreas** are visible with normal curvilinear peripheral contours. The parenchyma is largely hyperechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is borderline dilated (0.23 cm in diameter). There is no evidence of peripancreatic inflammation or effusion.

## WEIGHT

24.6 lbs

### Free Abdomen

Trace free fluid is observed. The abdominal **lymph nodes** are normal/not visible.

## INTERPRETED BY

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

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- Bilateral degenerative renal changes with dystrophic mineralization. The bilateral pyelectasia may be secondary to pyelonephritis, age-related remodeling, PU/PD (if applicable) or some combination thereof.
- The small intestinal wall changes are suggestive of inflammatory bowel disease.
- Trace ascites

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### Secondary Findings

- The bilateral adrenomegaly is consistent with the previous diagnosis of pituitary-dependent hyperadrenocorticism.
- Gall bladder sludge, non-mucocele
- The pancreatic changes are most consistent with age-related remodeling/fibrosis. Mild chronic pancreatitis may also be present, particularly if the patient's clinical history is supportive of this diagnosis.
- The focus of mineralization within the prostate may be a benign incidental finding. However, prostatic mineralization has been associated with neoplastic infiltration.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the azotemia and elevated liver values, Leptospirosis testing (i.e., blood and urine PCR, serology) is recommended. Other diagnostic considerations include the following:

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1. Urine culture and sensitivity (preferably 5-7 days after the last dose of antibiotics)
2. UPC (if proteinuria is present in the absence of a urinary tract infection)
3. Baseline blood pressure measurement

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Regarding the elevated liver enzymes, consider hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy). If surgical biopsies are pursued, aerobic and anaerobic bile cultures as well as acquisition of additional hepatic tissue samples for potential copper quantitation are recommended. Also consider pre-and postprandial serum bile acids to assess hepatic function.

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Given the bowel and pancreatic changes, also consider a malabsorption panel including serum cobalamin and folate, TLI and PLI.

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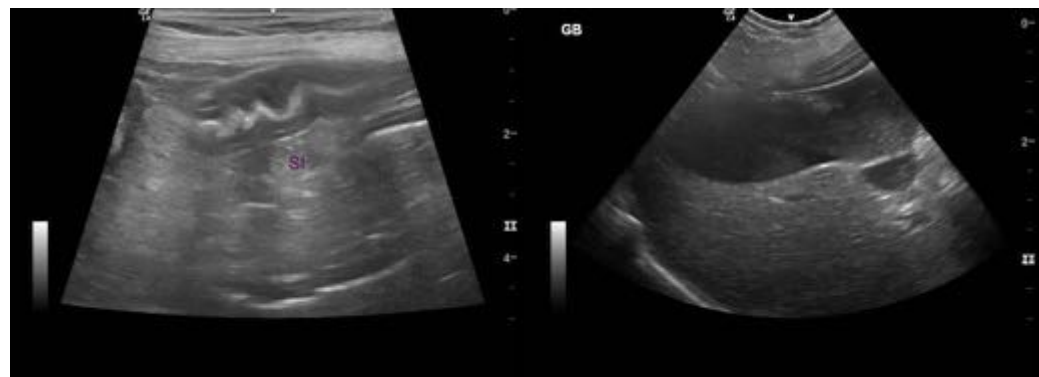
Given the patient's age and multitude of issues, three-view thoracic radiographs are recommended to assess cardiopulmonary status.

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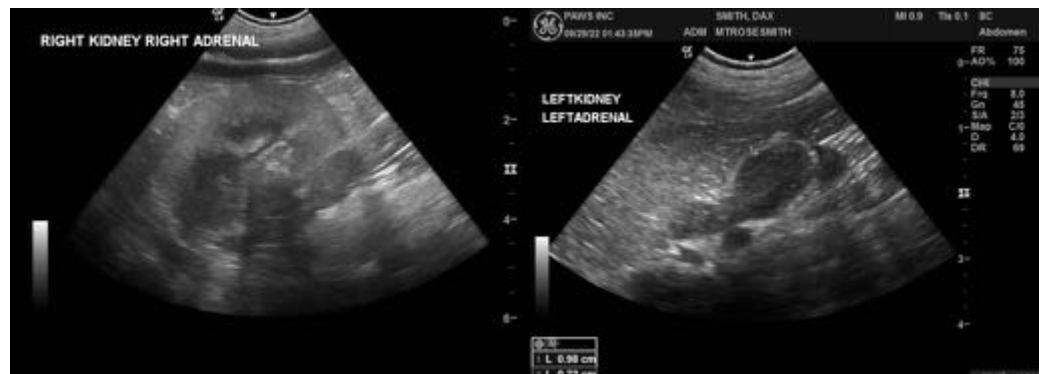
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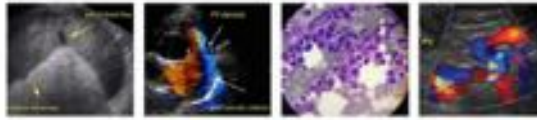


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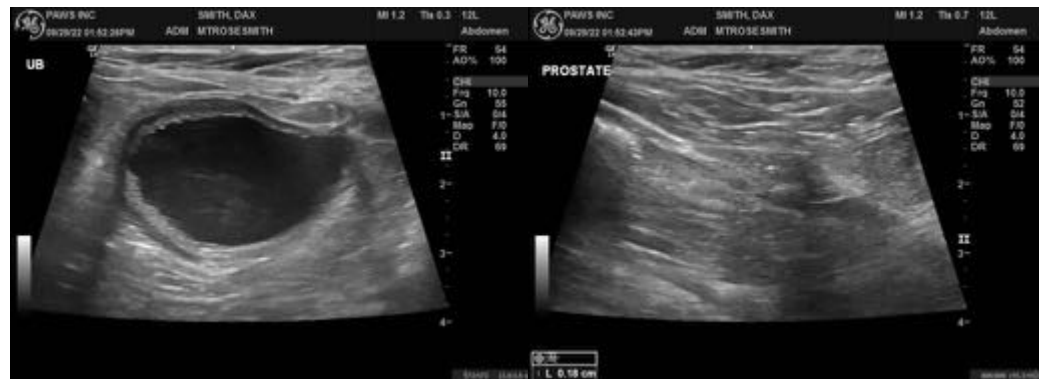
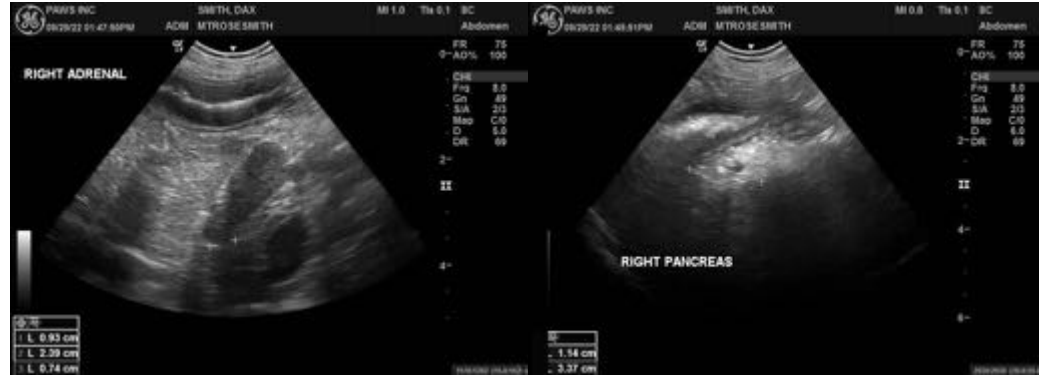
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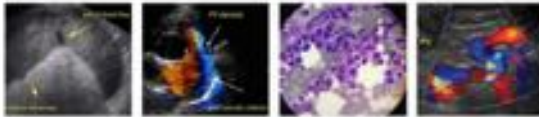
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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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Havanese

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[info@SonoPath.com](mailto:info@SonoPath.com)

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