

## PATIENT

Danny Keizer

## SPECIES

Canine

## BREED

Yorkshire terrier

## SEX

Male, neutered

## AGE

8 Yrs. 7 months

## WEIGHT

5.3 kg.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Dr. Jill Rankin

## HOSPITAL NAME

Prairie Winds AC

## REFERRING VET

Dr. Bhardwaj

## INVOICE

13455

## DATE

2/3/26

## PRESENTING CLINICAL SIGNS

The patient, Danny, presented with clinical signs highly suggestive of Cushing's disease, including PU, PD, polyphagia, weight gain, and panting, which was subsequently tested with LDDS.

Based on the clinical signs and a history of elevated ALT from the previous year, a diagnostic workup was initiated. Bloodwork revealed a monocytosis, eosinopenia, and elevated platelets (486). The chemistry panel showed elevated Cystatin B (233), low potassium (3.7), an elevated ALT (164), a markedly elevated ALP (4843), an elevated GGT (31), elevated cholesterol (12.3), and elevated lipase (290). A urinalysis demonstrated a low specific gravity of 1.012 with 2+ proteinuria. Endocrine testing showed an elevated random cortisol of 292 and a Low-Dose Dexamethasone Suppression (LDDS) test showing a lack of suppression (resting: 292, 4-hour: 261, 8-hour: 224). A T4 level was low normal at 16.6.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. The wall is normal in thickness with a smooth mucosal surface. A few tiny cystic calculi and gravity-dependent mineralized sand are observed within the lumen. The region of the trigone is normal. Mineralized sand is observed within the proximal/prostatic urethra.

The prostate is normal in size (0.64 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra contains mineralized sand. The lumen is not overtly dilated.

The left kidney is normal in size (4.09 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. A 0.61 x 0.36 cm cortical cyst is observed at the lateral aspect. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The right kidney is normal in size (4.29 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

### Adrenal Glands

The left adrenal gland is enlarged (0.70 cm at cranial pole) (0.66 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 enlarged (0.79 cm at cranial pole) (0.76 cm at caudal pole) with slightly swollen peripheral contours. A 0.88 x 0.69 cm hyperechoic to heterogeneous nodule is observed approximately mid-gland. The remaining glandular echogenicity and detail are unremarkable. Surrounding vasculature is normal.

### Spleen

The spleen is normal in size (1.03 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 enlarged with slightly swollen peripheral contours. The parenchyma is hyperechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.



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

### **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 in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The ileocecolic junction and colonic wall are normal. There is no evidence of an obstructive pattern.

### **Pancreas**

The right limb of the pancreas is 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 visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

### **Lymph nodes**

The abdominal lymph nodes are normal/not visible.

### **Free Abdomen**

There is no obvious evidence of free fluid.

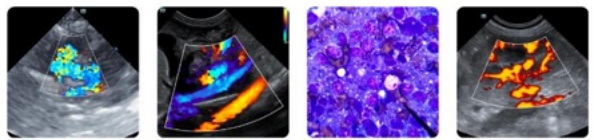
## ULTRASONOGRAPHIC FINDINGS

### Primary Findings:

- The diffuse hepatic changes are most consistent with vacuolar hepatopathy (i.e., endocrine, idiopathic) with a lower possibility of inflammatory disease, infiltrative neoplasia, or other hepatopathy.
- Bilateral adrenomegaly. The right adrenal nodule could be consistent with focal nodular hyperplasia, adenoma, emerging adenocarcinoma, pheochromocytoma, other. Given the bilateral adrenomegaly in conjunction with the low-dose dexamethasone suppression test, pituitary dependent hyperadrenocorticism is suspected. However, a functional tumor in the right adrenal gland cannot be completely excluded.
- The gallbladder changes are suggestive of a developing mucocele.

### Secondary Findings:

- Bilateral nonspecific, age-related renal changes with a left cortical cyst.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Tiny cystic calculi/mineralized luminal sand which extends into the prostatic urethra



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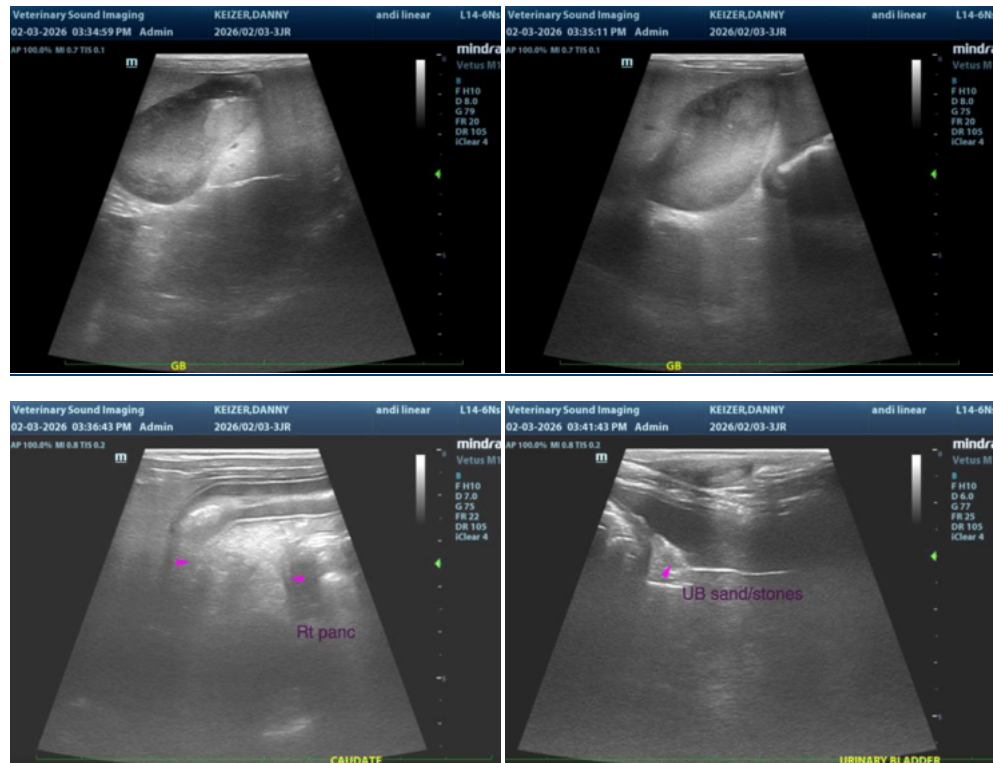
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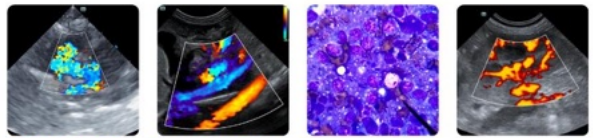
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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- To further differentiate pituitary from adrenal dependent hyperadrenocorticism, an endogenous ACTH level can be considered. Alternatively, consider initiation of treatment for pituitary dependent hyperadrenocorticism (i.e., Trilostane).
- Other considerations include the following:
  - UPC (if proteinuria is present in the absence of infection)
  - Baseline blood pressure measurement
  - Recheck ultrasound of the right adrenal gland in 2-3 months to assess for growth of the nodule
  - Given the gall bladder changes, Ursodeoxycholic acid (Ursodiol) is recommended. Serial sonographic monitoring (e.g., every 6-8 weeks) of the gall bladder is recommended to assess for progression to a fully formed mucocele. If progression occurs, a cholecystectomy may be warranted.
  - Serial monitoring (i.e., every 3-4 months) of the patient's liver values is recommended. If liver values continue to increase, a repeat abdominal ultrasound +/- hepatic tissue sampling may be warranted.





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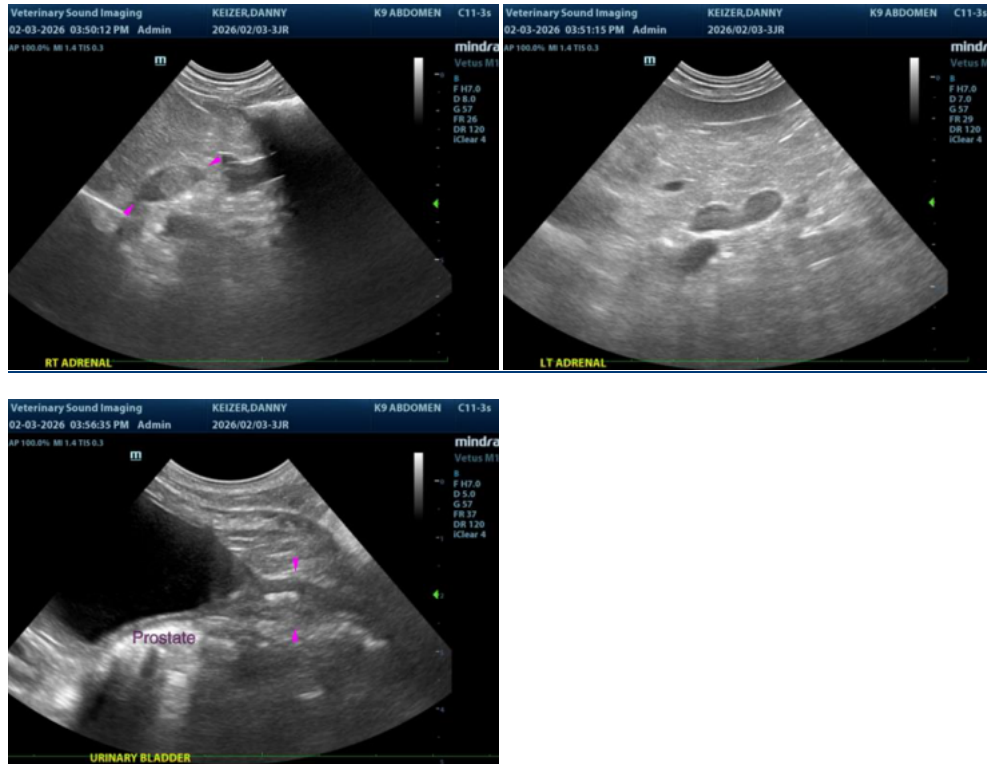
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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