



## PATIENT

Shirley Radman

## SPECIES

Canine

## BREED

Basset Hound Mix

## SEX

FS

## AGE

11.9 years

## WEIGHT

61.3

## INTERPRETED BY

Beth Johnson, DVM  
DACVIM

## IMAGING PERFORMED BY

Dr. Kristen Carpenter

## HOSPITAL NAME

Penridge AH

## REFERRING VET

Dr. Kristen Carpenter

## INVOICE

11561

## DATE

3/24/2026

## PRESENTING CLINICAL SIGNS

- Hx: Patient was sedated with butorphanol
- Patient presents with new severe PU/PD. Has a long hx of elevated LE and cystitis/intermittent UTI although no recent UTI has been identified. The patient is otherwise asymptomatic.
- Current meds: Hepatosupport, Ursodiol, Craninidin, Mushroom powder. Just finished a two week course of Clavamox given empirically for possible occult UTI and no change noted.

Abnormal PE/Chem/CBC/UA Results: AUS and LDDST in 2021 due to elevated ALP - NSF except GB sludge. Started on Ursodiol. LDDST not consistent with Cushings - Bloodwork 11/14/26: CBC: Platelets 615 k/ul (H), Chem: ALT 170 (H), ALP 3,793 (H). Chol 647 (H). T4 1.7 (N). 4dx neg x4. Fecal NOS. UA: USG 1.023, 2+ protein, quiet sediment - Recheck UA 2/20/26: USG 1.016, trace protein, quiet sediment - LDDST 2/25/26: Not consistent with Cushings - Chest rads 3/24/26: NSF - Repeat Liver enzymes 3/24/26: ALT 238 (H). ALP > 2000 (H), tбили 0.9 - Spot check BG 3/24/26: 112 mg/dL (N).

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. Mild pyelectasia is present bilaterally. There is no evidence of mineral or infarcts observed. Left kidney measures 6.44 cm, and the right kidney measures 6.62 cm.

### Adrenal Glands

The right adrenal gland is normal in size (0.51 cm at cranial pole and 0.65 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.41 cm at cranial pole and 0.57 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

### Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

### Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mildly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.



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The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

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### *Gastrointestinal*

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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The visible small intestine demonstrates areas of mildly thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen of the small intestine is empty with no evidence of obstruction or foreign material.

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The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

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### *Pancreas*

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

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### *Free Abdomen*

There is no visible free peritoneal effusion noted in these images.

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There is no apparent pathologic lymphadenopathy noted in these images.

### PRIMARY FINDINGS

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- Mild/emerging inflammatory bowel disease (IBD) pattern – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No loss of layering or distinct characteristics of malignancy are present. Therefore, differentials cannot be further ranked without tissue sampling.
- Concurrent chronic low grade smoldering pancreatitis can't be ruled out and should be suspected in the face of appropriate clinical signs.
- An obvious cause for the subtle liver changes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, other reactive hepatopathy, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.

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### SECONDARY FINDINGS

- Age related kidney changes with mild bilateral pyelectasia.

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### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Differentials for PU/PD are vast and include, but are not limited to:

Primary polyuria caused by chronic kidney disease, pyelonephritis, liver disease, diabetes mellitus, hyperthyroidism, hypercalcemia, hyperadrenocorticism, hypoadrenocorticism, E.coli infections ie)



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pyometra in females, polycythemia, central diabetes insipidus or primary nephrogenic diabetes insipidus.

Primary polydipsia caused by psychogenic polydipsia, fever, pain, or central nervous system disease.

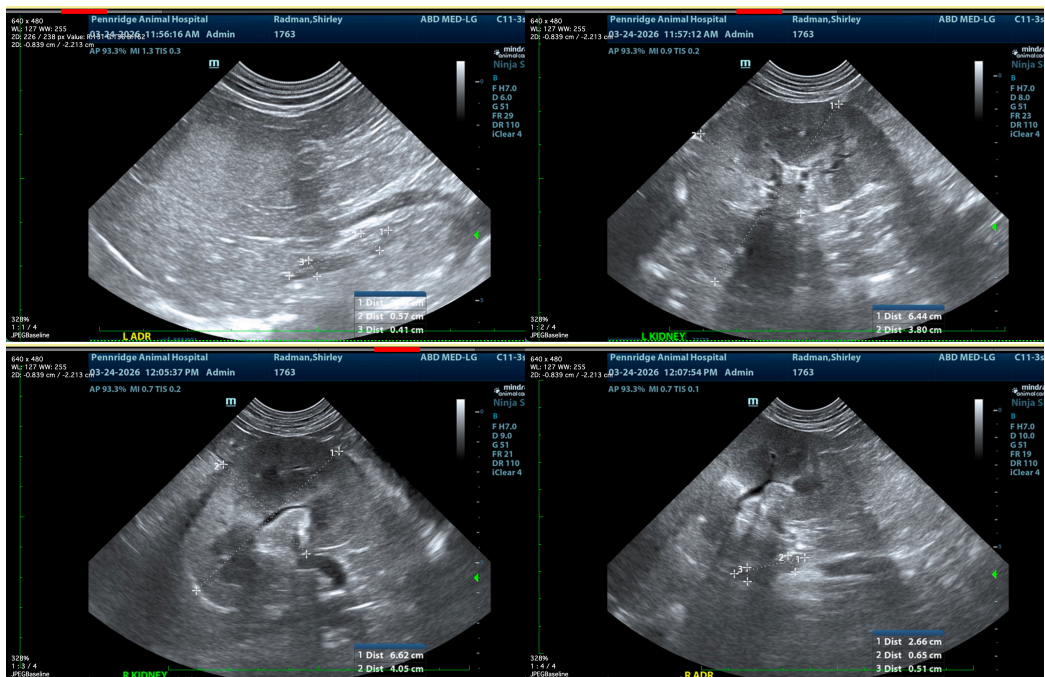
Most causes of PU/PD can be diagnosed with a comprehensive history and physical exam, a first AM urine specific gravity to see if urine concentration is possible (as most animals naturally consume less water overnight) followed by a comprehensive CBC, serum chemistry panel, electrolytes, and urinalysis.

If not, next step(s) may include a urine culture, low dose dexamethasone suppression test, T4, bile acids, Leptospirosis testing and/or an empirical course of antibiotics.

If a diagnosis is still not obtained, a more advanced work-up is indicated and consultation with an internist may be warranted.

Given patient's history, liver sampling could be considered beginning with a fine needle aspirate if patient's coagulation status is appropriate.

Further evaluation of the mild bowel and pancreatic changes are largely dependent on patient's clinical history but may warrant further investigation beginning with a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.





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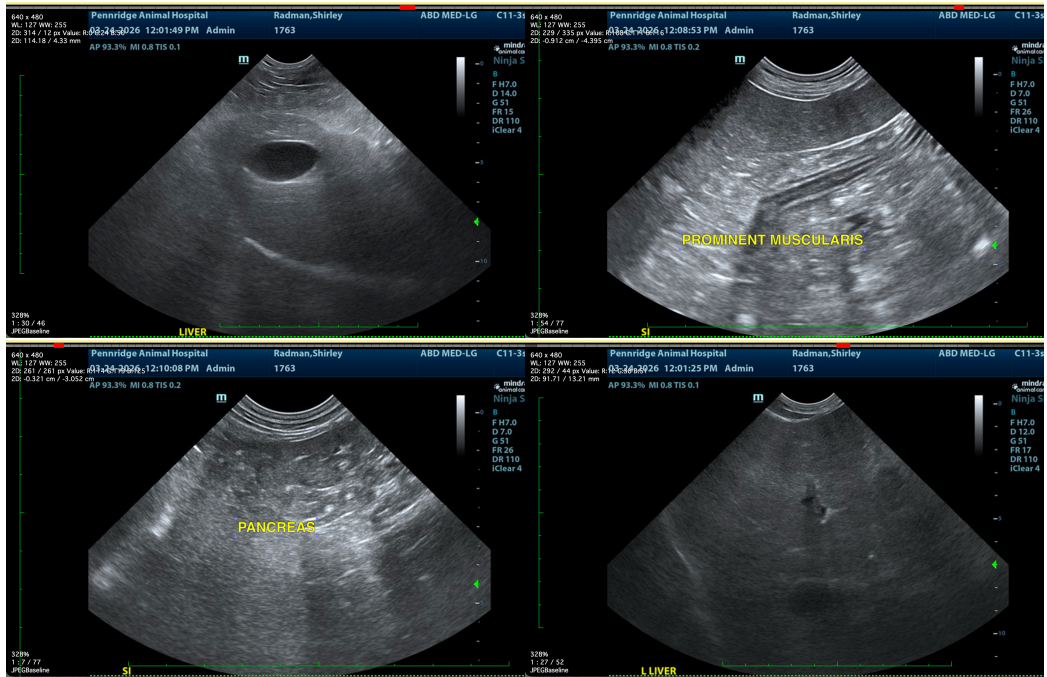
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM  
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