



PATIENT PRESENTING CLINICAL SIGNS

Autumn Freeman History: Restless at night, intermittent diarrhea, lethargy, and vomiting
 Medications: Gabapentin, Enalapril

SPECIES

Canine Urine specific gravity 1.021, 3+ protein, UPC 2.4, Pre ACTH 8.1, Post ACTH 26.8, ALP 529, Lipase 288, Creatinine 0.4, Platelets 559

BREED

Shih Tzu Mix

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

SEX

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

AGE

2009

The area of the aortic trifurcation was free of pathology.

WEIGHT

24.8

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Minor medullary mineral was noted in both kidneys. The left kidney measured 4.4 cm in length. The right kidney measured 5.0 cm in length.

INTERPRETED BY

R. McKenzie Daniel,
 DVM, DABVP
 (Canine and Feline)

Adrenal Glands

The left adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 1.5 cm length x 0.46 cm width at the caudal pole.

IMAGING PERFORMED BY

Rebekah Jakum, CVT
 ARDMS/RVT

A nonhomogeneous, mildly hyperechoic nodule was present in the mid to cranial right adrenal gland. The nodule was mildly expansive yet without evidence of capsular escape or vascular invasion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 1.8 cm x 0.91 cm. The overall right adrenal gland measured 2.5 cm length x 0.48 cm width at the caudal pole.

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Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

REFERRING VET

Dr. Laury

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Liver/ Gallbladder

The liver exhibited potential for mild generalized enlargement. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to

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mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing primarily anechoic content with mild, dependent, mildly echogenic to focal hyperechoic luminal debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.

SPECIES

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Gastrointestinal

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The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Minor retained anechoic fluid was present with no evidence of mechanical pyloric outflow obstruction. The gastric body wall width measured 0.51 cm. The gastric body wall including prominent mucosa measured 1.2 cm. The pylorus wall width measured 0.48 cm.

SEX

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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

AGE

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Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

WEIGHT

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

- Benign hepatopathy - probable vacuolar hepatopathy
- Mild gallbladder debris with potential for emerging nonobstructive cholelith
- Right adrenal nodule - functional vs. nonfunctional adenoma, benign hyperplasia, potential for emerging neoplastic criteria i.e., pheochromocytoma, adenocarcinoma, or other
- Pancreatic remodeling
- Mild chronic renal changes with minor medullary mineral
- Gastritis pattern with possible mild gastric hypomotility, sonographically unremarkable small bowel and colon

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Novel protein or hydrolyzed diet trial, gastroprotectants, and high colony count probiotics, depending on recurrent GI signs, may prove beneficial.

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Potential for low-grade to chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation. Correlation with a Spec cPL may be considered.

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Assessment of systemic BP for evidence of hypertension, which may allude to an emerging right pheochromocytoma is recommended. Recheck adrenal testing may be indicated if strong clinical concern for Cushing's Syndrome. Sonographic reassessment of the right adrenal nodule, as well as the



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stomach for evidence of progressive right adrenal nodular changes and/or gastric mural changes with initial recheck in 4-6 weeks would be ideal. Hepatosupportive medications including Denamarin and Ursodiol may prove beneficial.

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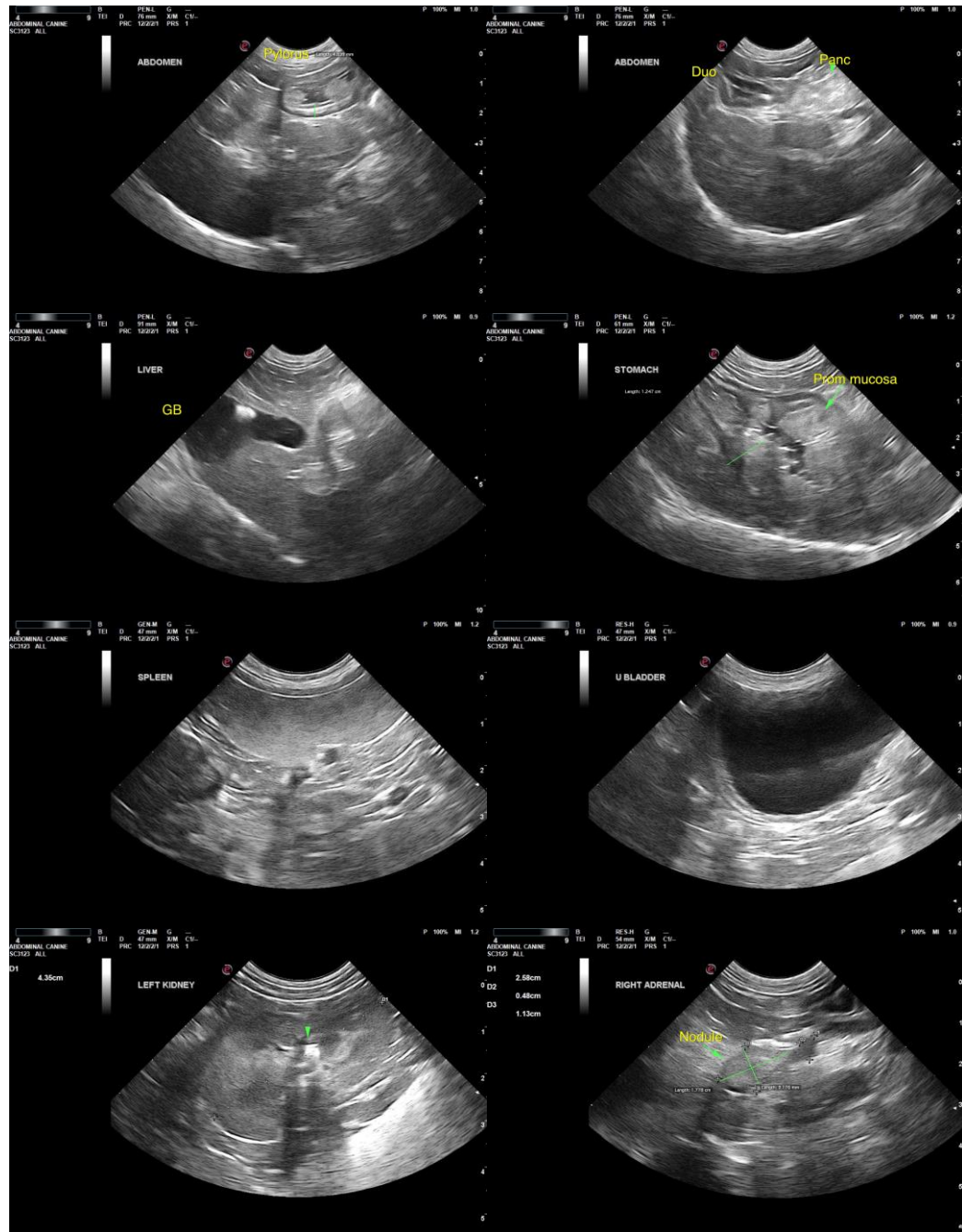
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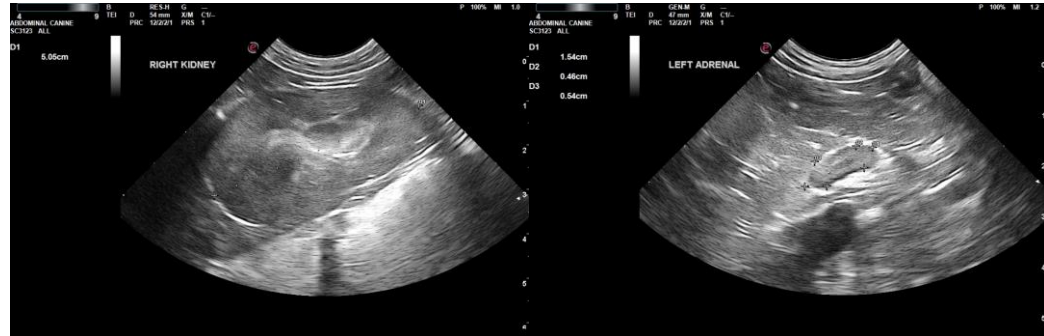
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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