

**PATIENT**

Ben Yokum

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

MN

**AGE**

14 years

**WEIGHT**

16 lbs.

**INTERPRETED BY**R. McKenzie Daniel,  
DVM, DABVP (Canine  
and Feline)**IMAGING  
PERFORMED BY**

Rachel Runnells

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. John Lyle

**INVOICE**

16132

**DATE**

2/10/23

**PRESENTING CLINICAL SIGNS**

Not eating well starting a month ago, barely eating now.

Abnormal PE/Chem/CBC/UA Results: Rads - unusual cranial abdomen, loss of contrast. NSF on abdominal palpation. T- 101. Elevated ALT, ALP, and Ca. T4 WNL.

ALP 705, ALT 132, SDMA 21.3, Calcium 11.6, Cholesterol 345

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen with minor dependent mineral. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The residual prostate was free of pathology.

The area of the aortic trifurcation was free of pathology.

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 to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation or pyelectasia was present. The left kidney measured 4.5 cm in length. The right kidney measured 4.4 cm in length. Mild nonobstructive medullary mineral was noted primarily in the lateral diverticuli.

**Adrenal Glands**

The left and right adrenal glands were mildly prominent in size based on caudal pole width measurement in light of body weight, exhibiting homogeneous parenchyma and normal capsule symmetry. The left adrenal gland measured 2.2 cm length x 0.73 cm width at the caudal pole. The right adrenal gland measured 2.7 cm length x 0.61 cm width at the caudal pole.

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. 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. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

**Liver/ Gallbladder**

The liver presented enlarged in size. 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 mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. A solitary, discrete, uniform hyperechoic intraparenchymal nodule was noted deep mid-

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liver measuring 1.2 cm in diameter. This nodule is likely consistent with benign lipogranuloma or focal nodular hyperplasia. The gallbladder was non-distended in size containing anechoic content with moderate, nondependent, mobile, nonorganized, variably echogenic gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammation was noted. The cystic and common bile ducts were normal.

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***Gastrointestinal***

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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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.

**SEX**

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

MN

***Pancreas*****AGE**

14 years

The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

**WEIGHT**

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***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS****INTERPRETED BY**

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

- Minor to pinpoint dependent urinary bladder mineral
- Bilateral chronic renal changes with medullary mineral
- Sonographically unremarkable gastrointestinal tract
- Hepatopathy with solitary discrete intraparenchymal nodule - subjectively benign, nodule is likely consistent with benign lipogranuloma or focal nodular hyperplasia, with vacuolar hepatopathy, primary or concurrent inflammatory / immune-mediated disease, hematopoiesis, nonobstructive cholestasis or other hepatopathy possible with infiltrative neoplastic criteria considered unlikely
- Moderate gallbladder debris - not consistent with gallbladder mucocele criteria
- Bilateral mild prominent adrenal glands - nonspecific, potential for adrenal variant or stress hyperplasia

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The patient is suspected to be passing small amounts of mineral from the kidneys into the urinary bladder. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

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Adrenal workup may be considered if previous or future clinical signs of Cushing's Syndrome are noted.

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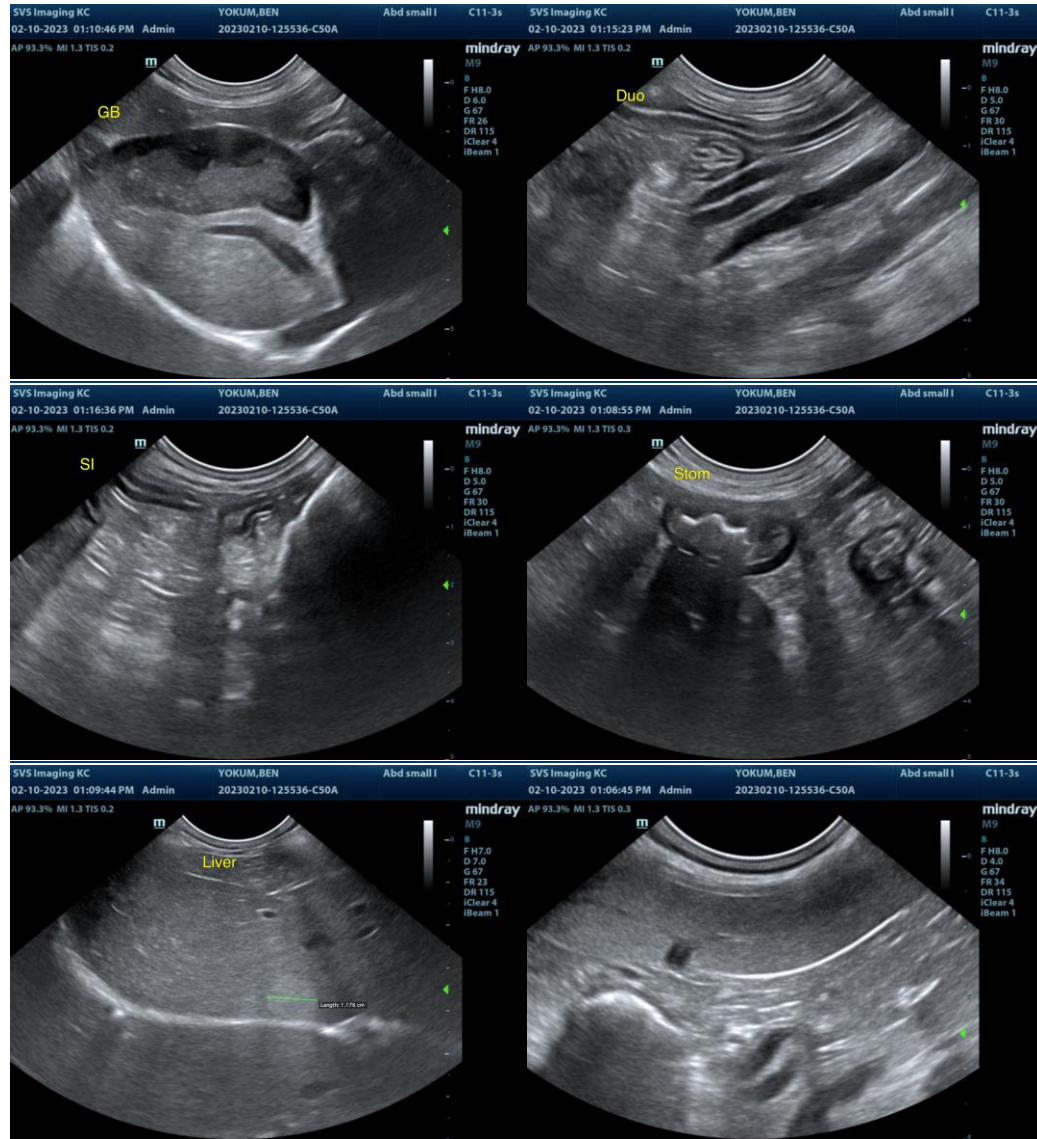
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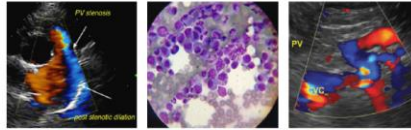
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Screening FNA cytology is warranted even though no overt suspicion of hepatic neoplastic criteria, given the hypercalcemia. Further assessment may include rectal palpation and three view chest radiographs if not done. Spec cPL could be considered to assess for low-grade or chronic pancreatitis, which may present as sonographically normal, as a contributing factor to the patient's inappetence. Empirically, as-needed gastrointestinal support is suggested.





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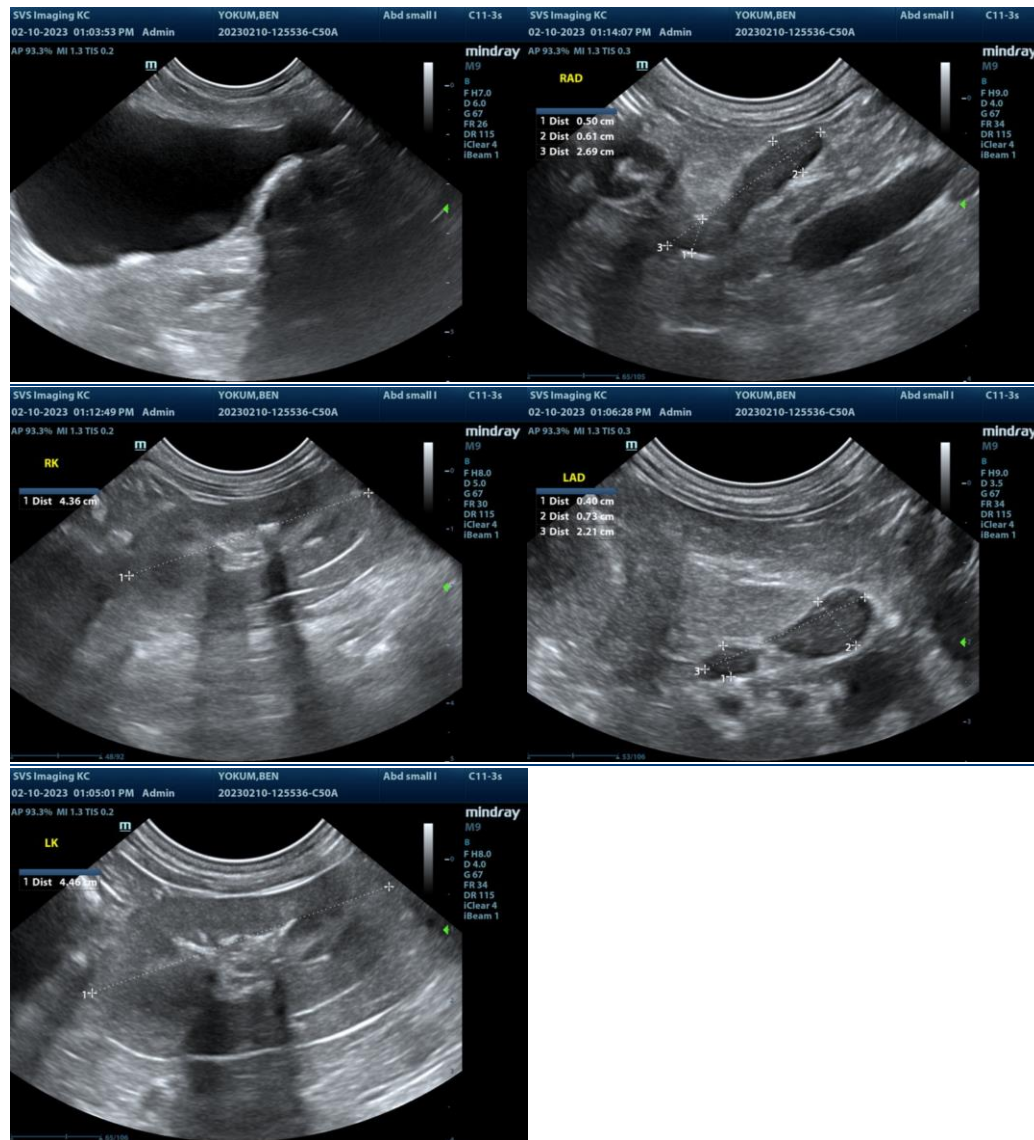
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)  
info@SonoPath.com