



**PATIENT**

Gigi Orth

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

FS

**AGE**

11.5 years

**WEIGHT**

7.2 kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Wendy Turner

**HOSPITAL NAME**

Pennsauken Animal  
Hospital and Urgent  
Care

**REFERRING VET**

Wendy Turner

**INVOICE**

17322

**DATE**

7/21/23

**PRESENTING CLINICAL SIGNS**

Decreased appetite, not sleeping, waking a lot. Recent loss of housemate, and changes noted since then. Treated for presumed pancreatitis before presentation today.

Abnormal PE/Chem/CBC/UA Results: Abdomen doughy with mild hepatosplenomegaly. Globulins 4.2 (1.6-3.6), ALT 135 ALP 3429 (no USG provided), BUN 40, Cr 1.2. Amylase 1504, PSL 514 (24-140). UPCR 7.2 (not verified)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, and cystourethral junction 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.

No evidence of pathology in the area of the aortic trifurcation.

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. Pinpoint to minor medullary mineral was noted in both kidneys. The left kidney measured 4.9 cm in length. The right kidney measured 4.7 cm in length.

**Adrenal Glands**

An isoechoic, mildly nonhomogeneous nodule was present in the caudal pole of the left adrenal gland resulting in mild symmetrical distortion of the caudal adrenal capsule without evidence of parenchymal escape. The nodule did not exhibit signs of mineralization or vascular invasion. The left adrenal nodule measured 1.1 cm x 1.1 cm. The overall left adrenal gland measured 3.3 cm length x 1.1 cm width at the caudal pole.

A mildly irregular, nonhomogeneous, nonmineralized nodule was present in the mid to cranial right adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of vascular invasion. The right adrenal gland nodule measured 1.4 cm x 1.0 cm. The overall right adrenal gland measured 2.1 cm length x 1.0 cm width at the cranial pole and 0.59 cm width at the caudal pole.

**Spleen**

The spleen exhibited subjective mild enlargement with possible mild folding. A solitary, mildly irregular, nonhomogeneous, hyperechoic, nondisruptive mid-splenic nodule was present measuring 1.5 cm in diameter. No visualized splenic mass was 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. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.



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***Gastrointestinal***

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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.

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Normal visible colon wall layers were present with subjective soft fecal matter.

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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.

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***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**WEIGHT**

7.2 kg

**ULTRASONOGRAPHIC FINDINGS**

- Nonspecific mild chronic renal changes exhibiting pinpoint medullary mineral
- Bilateral nodular adrenal glands - suspect bilateral adenomas
- Subjective mild splenomegaly with potential folding, nonspecific yet suspect benign nonhomogeneously hyperechoic splenic nodule - nodules suggestive of probable myelolipoma
- Hepatopathy, sonographically unremarkable gallbladder
- Sonographically normal gastrointestinal tract with soft fecal matter in colon
- Pancreatic remodeling

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Screening blood pressure to assess for evidence of hypertension, which may allude to an emerging left/right/or bilateral pheochromocytoma, is suggested. Sonographic monitoring of the bilateral adrenal glands for evidence of progressive nodules with initial recheck in 6 weeks would be ideal.

The patient's current clinical signs are not overtly suggestive of Cushing's Syndrome yet adrenal workup with LDDST could be considered if clinical signs consistent with Cushing's Syndrome arise.

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Although nonspecific, the liver presentation is suggestive of benign hepatopathy with considerations including vacuolar hepatopathy, inflammatory hepatopathy i.e., cholangiohepatitis, hyperplasia, hematopoiesis, or other hepatopathy with infiltrative neoplasia thought less likely. Assuming normal clotting status, hepatic FNA cytology is warranted for further assessment.

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Low-grade to chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation.

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered. As-needed gastrointestinal support is recommended.



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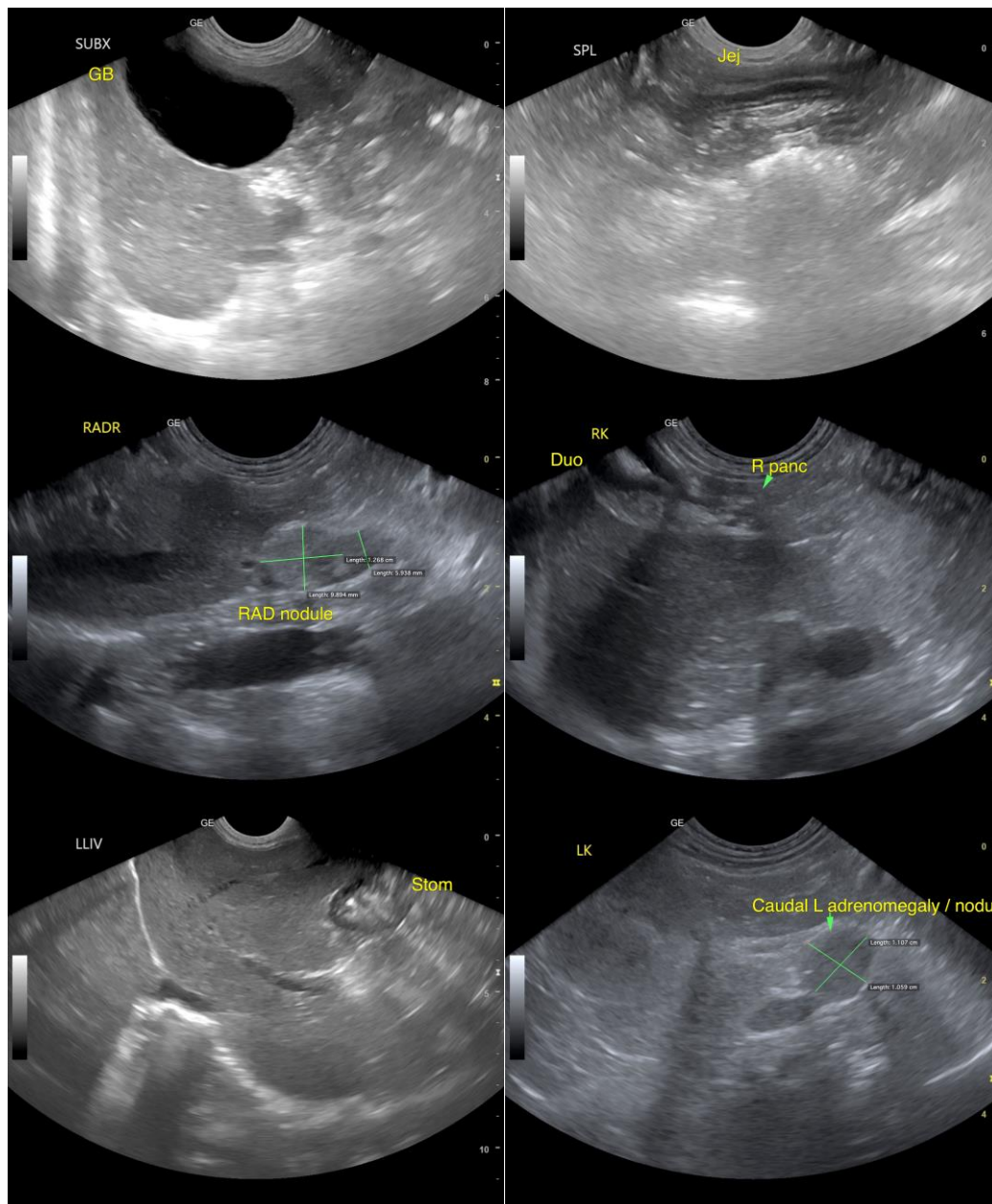
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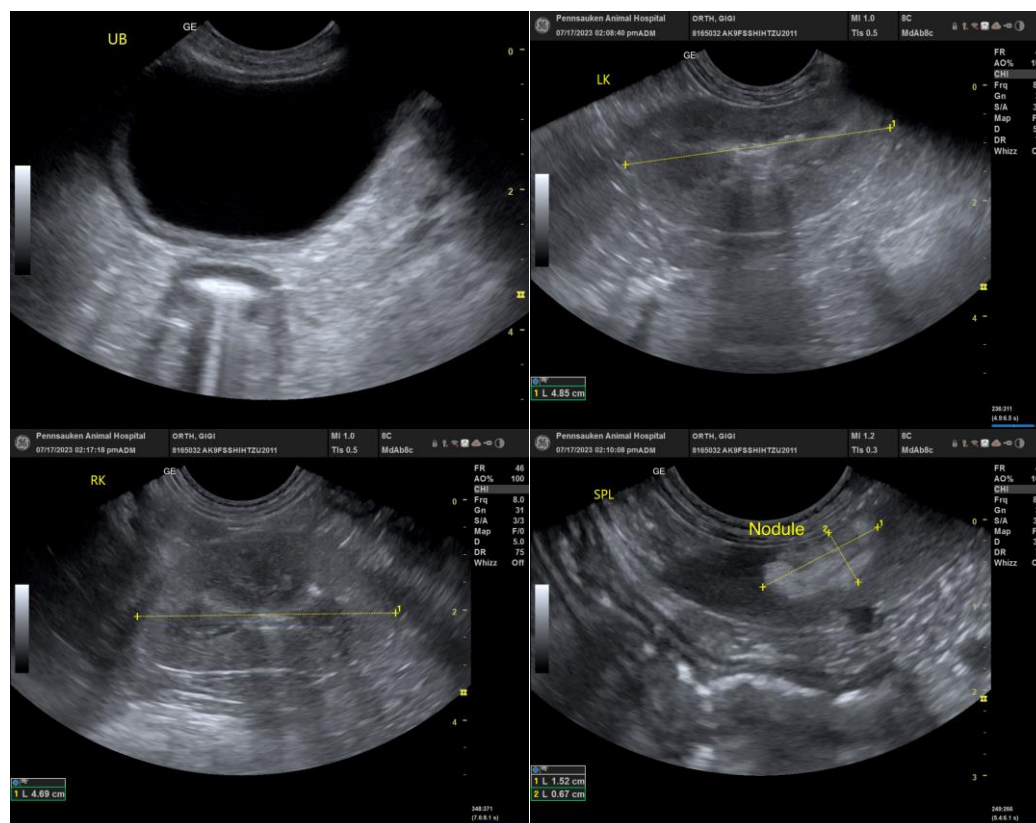
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)**  
[info@sonopath.com](mailto:info@sonopath.com)