

**PATIENT**

Jessy St. Paul

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

FS

**AGE**

9 years

**WEIGHT**

77.5 lb

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

Rachel Runnells, RVT

**HOSPITAL NAME**SVS Imaging Kansas  
City**REFERRING VET**

Dr. Oetting

**INVOICE**

13526

**DATE**

3/22/22

**PRESENTING CLINICAL SIGNS**

Performed a yearly total health plus blood profile (chem27, cbc, FT4) and found an elevation in the ALP. Began Denamarin for liver support. Recheck blood profile again 3-4 months later and the ALP had doubled. Performed a LDDS test to rule out a dx of Cushing's. LDDS test came back normal. No signs/symptoms at this time.

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

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 4.0 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.

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 and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 6.8 cm in length. The right kidney measured 6.9 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.81 cm width at the caudal pole and 0.82 cm width at the cranial pole.

A mild uniform hyperechoic nonmineralized, non-expansive, nodule was present in the cranial pole of the right adrenal gland. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 1.0 cm x 0.8 cm. The overall right adrenal gland measured 0.7 cm width at the caudal pole and 1.0 cm width at the cranial 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. 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***

The visualized gastric walls were sonographically unremarkable. The lumen of the stomach contained moderate shadowing ingesta most consistent with post prandial presentation without signs of ileus, obstruction or foreign material. The ventral gastric body wall width measured 0.59 cm.

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. The jejunum wall width measured 0.38 cm.

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

***Pancreas***

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.

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS*****Primary Findings***

- Vacuolar hepatopathy pattern
- Normal gallbladder and common bile duct - no evidence of post-hepatic obstruction
- Nonspecific shadowing gastric ingesta
- Small right adrenal nodule - suspect adenoma

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The overall hepatic presentation was nonspecific yet consistent with benign hepatopathy and most suggestive of probable idiopathic vacuolar hepatopathy given the elevated yet progressive ALP level. No evidence of hepatic or hepatobiliary neoplastic criteria, as well as no evidence of post hepatic obstruction, was evident.

Continued hepatosupportive medications including Denamarin with the addition of Ursodiol due to its anti-oxidant and immunomodulatory effects may prove beneficial. Hepatic sampling, specifically biopsy, is likely required for further assessment.

The right adrenal nodule is suggestive of an adenoma yet technically the possibility of an emerging neoplastic nodule such as pheochromocytoma or adenocarcinoma cannot be definitively excluded. The right adrenal nodule is most likely nonfunctional given the normal LDDST. Assessment for evidence of hypertension, which may allude to emerging pheochromocytoma, is suggested while sonographic monitoring of the right adrenal nodule with initial recheck in 6 weeks would be ideal.

**IMAGING PERFORMED BY**

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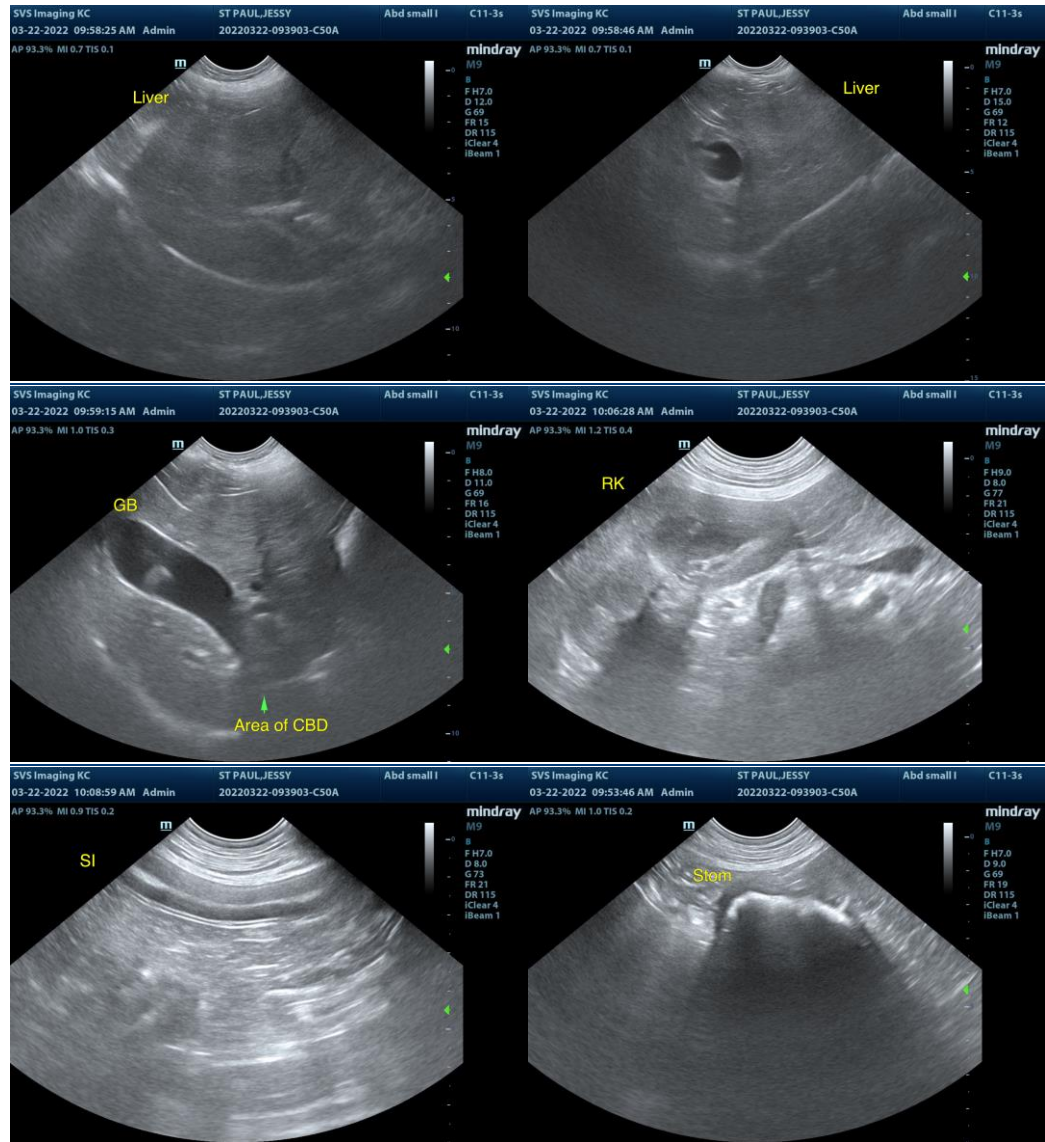
Dr. Oetting

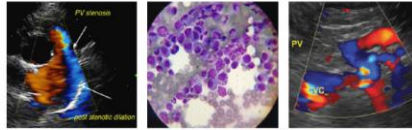
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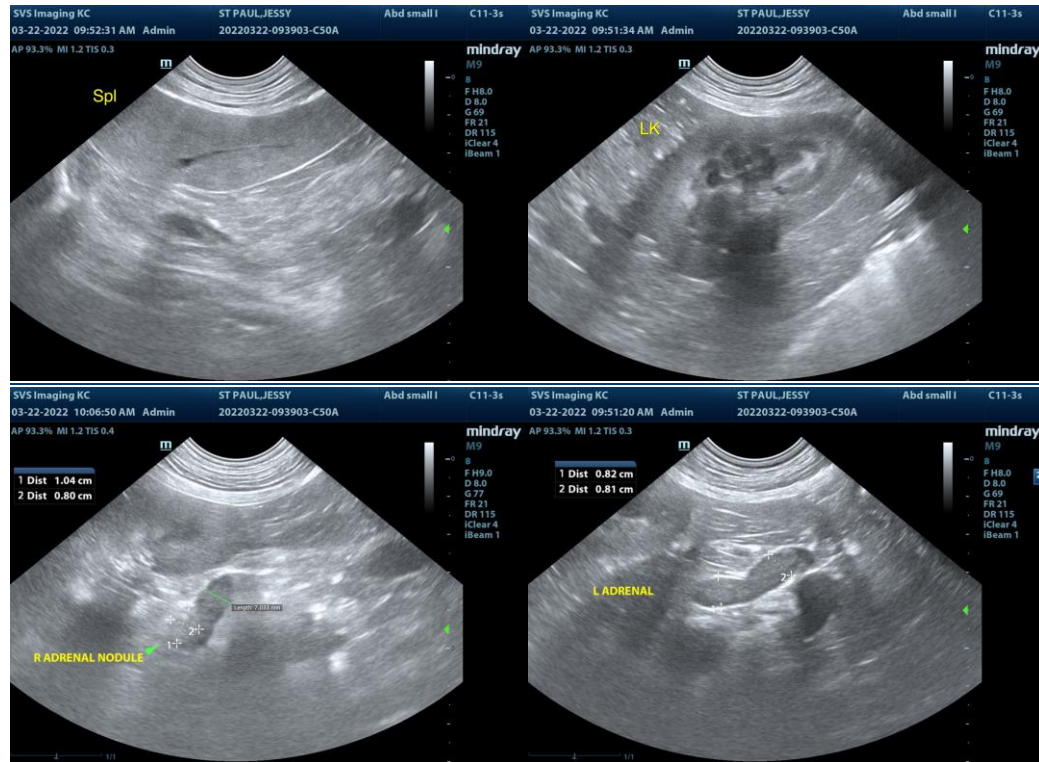
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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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**