

**PATIENT**

Lilly Campbell-Nelson

**SPECIES**

Canine

**BREED**

Golden

**SEX**

SF

**AGE**

12 years

**WEIGHT**

74 lbs.

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

Sarah Pender, CVT

**HOSPITAL NAME**

SVS Imaging QC

**REFERRING VET**

Bock-Vanaria

**INVOICE**

14489

**DATE**

8/3/22

**PRESENTING CLINICAL SIGNS**

P was referred by other veterinarian for abnormal abdominal palpation. X-rays were suspicious for mass effect with displacement of the colon and intestines.

Abnormal PE/Chem/CBC/UA Results: Abdomen is pendulous on exam, soft, nonpainful, unable to palpate a mass

Fasted for 14 hours before scan today.

Current meds: 100mg Galliprant, 10mg Benazepril 1.5tabs BID, Cosequin, and Adequan.

Hx of high BP and difficulty using back legs. Owner walks her with a sling.

Most recent BP: 194/157/167. 194/150/154, 196/149/158

Has also had a seizure in the past

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

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Mild asymmetrical luminal surface to micropolyploid changes were present likely associated with age-related mural changes. Anechoic urine was present in the lumen with no calculi or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the iliac trifurcation was free of pathology including no evidence of medial Iliac or sublumbar lymphadenopathy/masses.

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. The left kidney exhibited a solitary cortical cyst. The right kidney exhibited a focal area of nonobstructive medullary mineral. The left kidney measured 6.1 cm in length. The right kidney measured 7.2 cm in length.

**Adrenal Glands**

Bilateral prominent to mildly enlarged adrenal glands were noted with maintained homogeneous left adrenal parenchyma measuring 3.0 cm length x 0.70 cm width at the caudal pole. The right adrenal gland exhibited mild mid to cranial enlargement with a non-expansive, discrete, mildly hyperechoic nonmineralized nodule. The right adrenal gland measured 3.7 cm length x 1.87 cm width at the cranial pole and 0.81 cm width at the caudal pole. The right adrenal nodule measured 1.3 cm x 1.1 cm. No overt evidence of vascular invasion associated with the right adrenal nodule was noted.

**Spleen**

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multifocal, well-defined, symmetrical, hyperechoic nodules were present throughout the medial parenchyma and adjacent to the medial capsule. 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 or neoplastic

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changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas. No splenic masses were noted.

**Liver/ Gallbladder****SPECIES**

Canine

The liver exhibited subjective enlargement with maintained symmetrical capsule contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. Intermittent, nondisruptive, discrete hypoechoic intraparenchymal nodules were present with an example measuring 3.6 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was mildly distended in size containing anechoic content primarily with mild nondependent mildly hyperechoic debris. Subtle dilation of the cystic biliary duct was noted. The common bile duct was normal. No evidence of post hepatic obstructive criteria was noted.

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**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild to moderate ingesta / chyme most consistent with post prandial presentation without signs of ileus, obstruction or foreign material. The stomach was otherwise normal. No evidence of obstructive pyloric mural pathology was noted.

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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.

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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. This is likely consistent with age-related pancreatic changes and considered incidental.

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**Free Abdomen**

No omental masses or peritoneal effusion were noted. A solitary, mid to cranial abdominal mesenteric lymph node was present adjacent to the cranial right kidney measuring 3.3 cm x 1.1 cm. The lymph node was essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5).

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**ULTRASONOGRAPHIC FINDINGS****REFERRING VET**

Bock-Vanaria

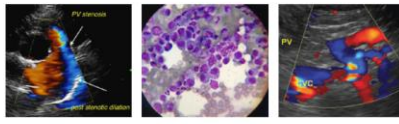
- Mild hepatomegaly exhibiting parenchymal remodeling with intermittent discrete hypoechoic intraparenchymal nodules
- Mild gallbladder debris (non-mucocele)
- Mild chronic renal changes
- Benign splenic nodules - consistent with probable benign myelolipomas or areas of medial capsule fibrosis
- Subjective bilateral prominent to mildly enlarged adrenal glands with nonspecific right adrenal nodule

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- Solitary nonspecific yet subjectively benign mesenteric lymph node

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The subjective prominent to mildly enlarged bilateral adrenal glands and right adrenal nodule were nonspecific with considerations including left adrenal patient variant, benign hyperplasia, and right adrenal adenoma, while the possibility of emerging right adrenal neoplastic criteria such as pheochromocytoma, given the hypertension in this patient, is of concern.

Full adrenal workup could be considered with LDDST if clinical signs consistent with adrenal hyperfunction i.e., PU/PD, polyphagia, etc., are present. Urinary metanephrine measurement, if possible, could also be considered. The following link to Marshfield Labs may be useful if urinary metanephrine assessment is elected.

<https://www.marshfieldlabs.org/labnews/Documents/Pheochromocytoma%20Diagnosis%20Update%20BF.pdf>

The liver presentation may indicate vacuolar hepatopathy with intermittent discrete areas of hyperplasia, hematopoiesis, or inflammatory hepatopathy while neoplastic criteria, although thought less likely, cannot be definitively excluded. Correlation with hepatic enzymes is recommended.

Assuming normal clotting status and using a 25-gauge needle, screening hepatic cytology for further assessment could be considered. Hepatosupportive medications are recommended if hepatic enzyme elevations or evidence of cholestasis.

Sonographic monitoring of the right adrenal gland for evidence of progressive enlargement of nodular changes with an initial recheck in 4 weeks would be ideal.

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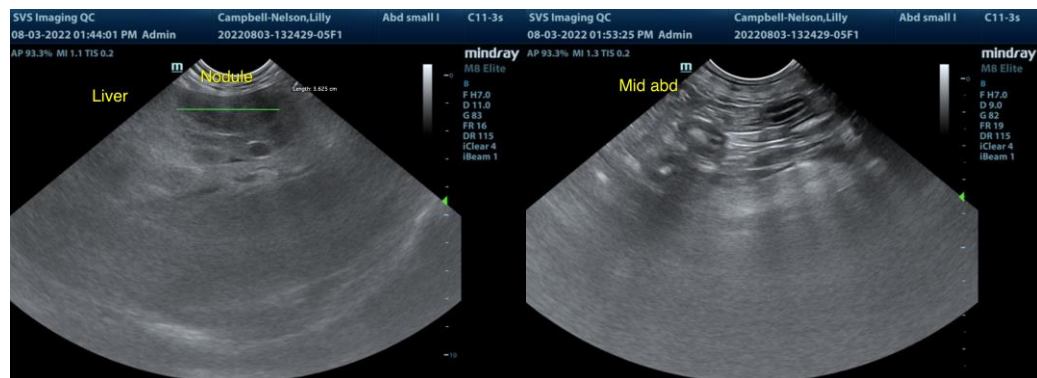
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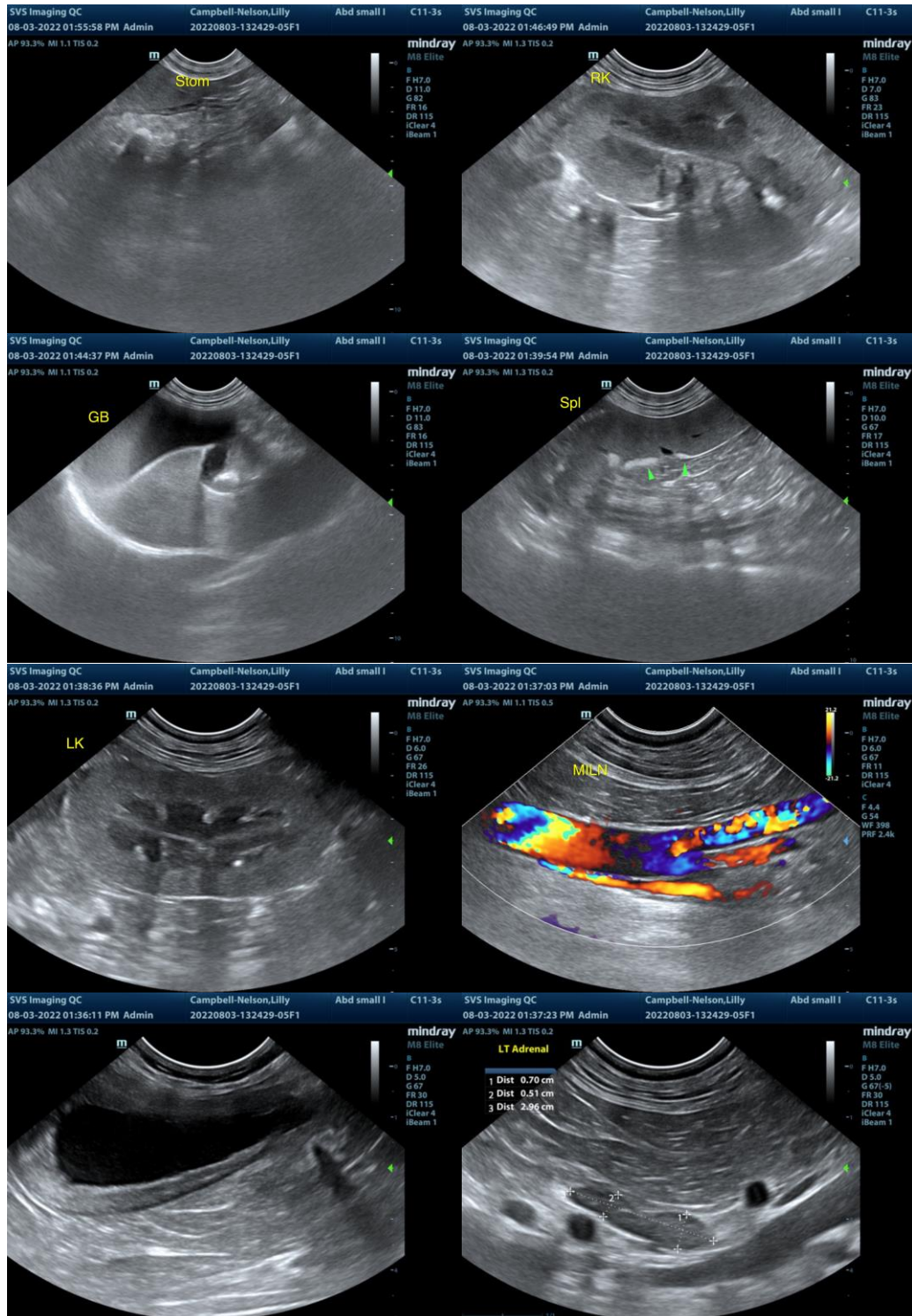
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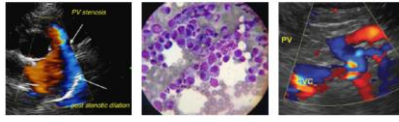
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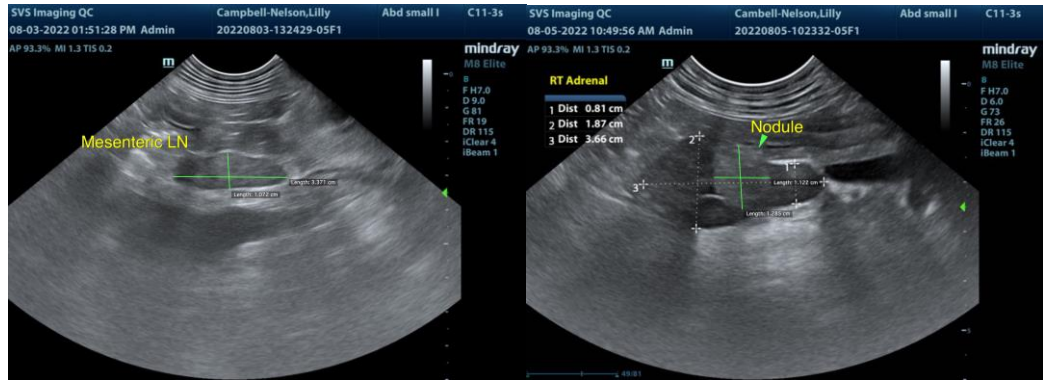
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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