



**PATIENT**

Pepper Smoot

**SPECIES**

Canine

**BREED**

Lab Mix

**SEX**

FS

**AGE**

6 years 4 months

**WEIGHT**

110 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Mack

**HOSPITAL NAME**

Northside VC

**REFERRING VET**

Mack

**INVOICE**

14737

**DATE**

8/1/23

**PRESENTING CLINICAL SIGNS**

Geriatric bloodwork panel showed elevated liver enzymes.  
Abnormal PE/Chem/CBC/UA Results: CHEM: ALT 155, ALKP 1201.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. No evidence of mineral or calculi was noted. 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 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 6.6 cm in length. The right kidney measured 7.8 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 0.65 cm width at the caudal pole and 0.49 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.59 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 exhibited mild to possible moderate enlarged 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. A solitary, well-demarcated, nondisruptive, isoechoic to nonhomogeneous macronodule was present in the ventral liver measuring 3.2 cm in diameter. The nodule did not distort the hepatic capsule. No other additional visualized hepatic intraparenchymal nodules or masses were noted. 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 gallbladder sediment. The cystic and common bile ducts were normal.

**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.

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

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**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.

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**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

**AGE**

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**ULTRASONOGRAPHIC FINDINGS**

- Hepatomegaly exhibiting a solitary, nonspecific, nonhomogeneous intraparenchymal macronodule
- Minor gallbladder sediment (non-mucocele)
- Sonographically normal bilateral adrenal glands

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**INTERPRETED BY**

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

The liver, including the intraparenchymal macronodule, was nonspecific with considerations including vacuolar hepatopathy, concurrent or primary nonspecific inflammatory hepatopathy, hyperplasia, hematopoiesis, granuloma, infiltrative neoplasia (thought less likely), or other hepatopathy.

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Correlation with pending hepatic cytology is recommended. Core surgical biopsy is likely required for a definitive diagnosis. Hepatosupportive medications including Denamarin and Ursodiol, if tolerated, may prove beneficial. Pending cytology, sonographic monitoring of the liver and intraparenchymal macronodule for evidence of progressive changes with initial recheck in 3-4 months would be reasonable.

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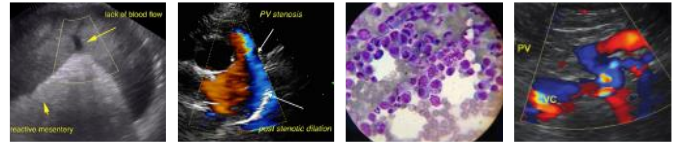
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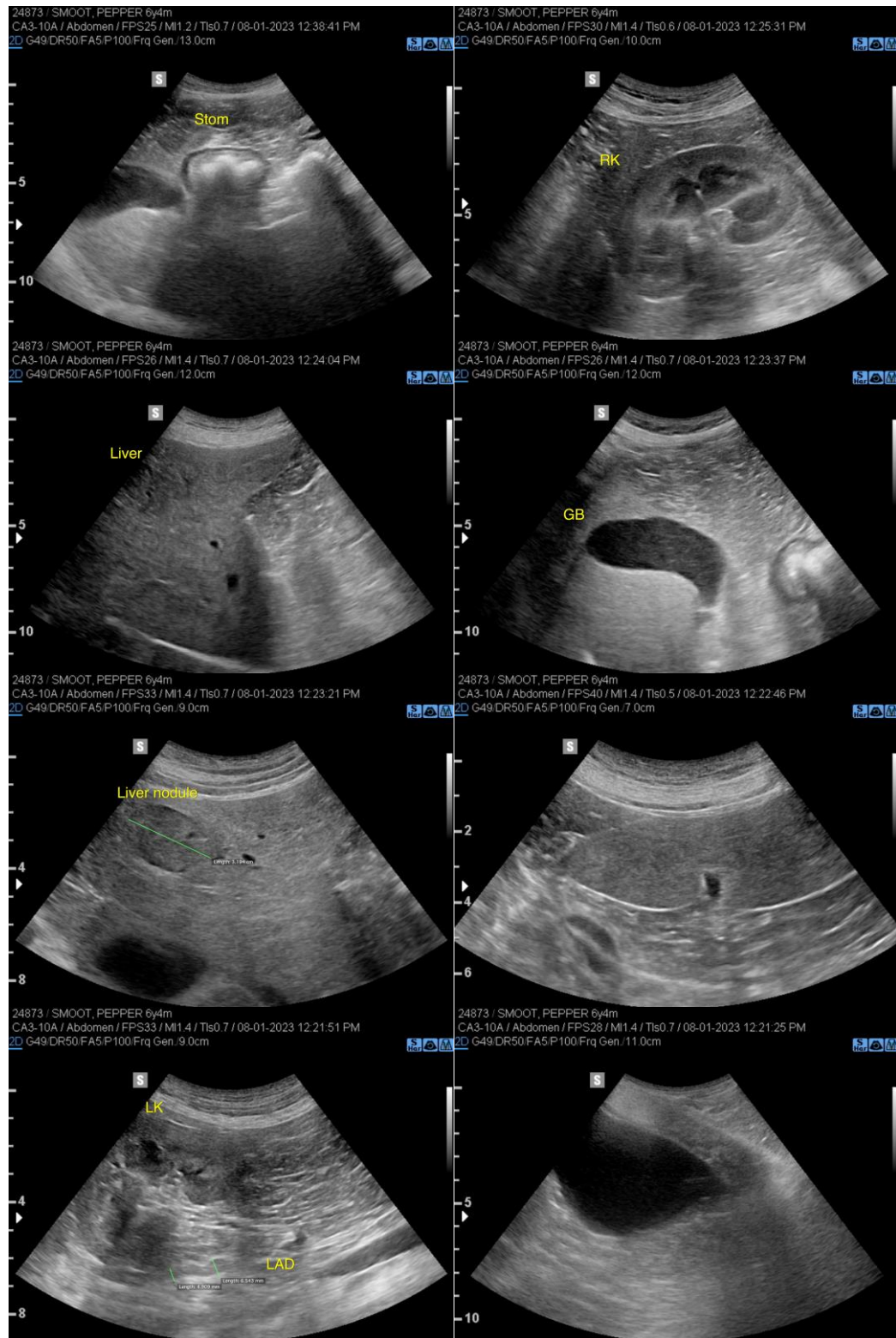
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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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Canine

**R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)**

[info@sonopath.com](mailto:info@sonopath.com)

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