



|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PATIENT</b>                                           | <b>PRESENTING CLINICAL SIGNS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Bailey Savage                                            | hx of chronic low level increase of ALT and ALKP; recently increased more despite treatment with amoxicillan/metronidazole. On denamarin                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SPECIES</b>                                           | Abnormal PE/Chem/CBC/UA Results: ALKP 418; ALT 321                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Canine                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>BREED</b>                                             | <b>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| West Highland Terrier                                    | <b>Urinary System</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>SEX</b>                                               | The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Mild, nondependent, particulate sediment was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted. No calculi were noted.                                                                                                                                               |
| MN                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>AGE</b>                                               | No overt pathology was noted in the area of the residual prostate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 11 years                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>WEIGHT</b>                                            | The area of the aortic trifurcation was free of pathology.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 23.3 lbs.                                                | 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. Solitary, small cortical cyst was present in the caudal lateral cortex of the right kidney. No evidence of pelvic dilation was present. The left kidney measured 4.7 cm in length. The right kidney measured 5.2 cm in length.                                                                                         |
| <b>INTERPRETED BY</b>                                    | <b>Adrenal Glands</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| R. McKenzie Daniel,<br>DVM, DABVP<br>(Canine and Feline) | The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.36 cm width at the caudal pole and 0.38 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 0.42 cm width at the caudal pole and 0.50 cm width at the cranial pole.                                                                                                                                                                                                      |
| <b>IMAGING PERFORMED BY</b>                              | <b>Spleen</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Diane McFadden                                           | The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multifocal, well-defined, symmetrical, echogenic nodules were present throughout the cranial to caudal 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 or neoplastic changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas. |
| <b>HOSPITAL NAME</b>                                     | <b>Liver/ Gallbladder</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| American Animal Hospital                                 | The liver was mildly enlarged with normal structure and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a mild to moderate coarse echotexture and evidence of parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with mild, dependent to nondependent, yet nonorganized, particulate, luminal gallbladder debris. The gallbladder walls were sonographically                                                                                                          |
| <b>REFERRING VET</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Dr. Arculli                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>INVOICE</b>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 13309                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>DATE</b>                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2/11/22                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



**PATIENT**

Bailey Savage

normal without evidence of chronic inflammatory changes, as well as no evidence of peripheral gallbladder inflammation. The cystic and common bile ducts were normal without evidence of dilation, stasis, or obstruction.

**SPECIES**

Canine

**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.

**BREED**

West Highland  
Terrier

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**

MN

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

**AGE**

11 years

**Pancreas**

The pancreas was normal in size and contour with heterogeneous to mildly hypoechoic parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

**WEIGHT**

23.3 lbs.

**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Chronic hepatopathy
- Mild gallbladder debris (non-mucocele)
- Heterogeneous to mildly hypoechoic pancreas - nonspecific, age-related changes suspected and likely incidental, potential for low-grade to chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation or elevated cPL
- Bilateral mild chronic renal changes with small right kidney cortical cyst
- Mild urinary bladder sediment
- Benign splenic nodules - likely consistent with benign myelolipomas or areas of incidental medial capsule fibrosis

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Diane McFadden

**HOSPITAL NAME**

American Animal  
Hospital

**REFERRING VET**

Dr. Arculli

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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The urinary bladder sediment may suggest cellular / crystalline debris or mucus. Cystocentesis for UA +/- C/S if evidence of inflammatory cells is recommended.

**DATE**

2/11/22

The liver was nonspecific yet most consistent with benign hepatopathy. Considerations may include vacuolar hepatic changes and nonobstructive cholestasis given the ALP elevation with potential for low-grade chronic active hepatitis or cholangiohepatitis (viral, immune-mediated, etc.), early fibrosis or other hepatopathy with neoplasia considered a less likely differential diagnosis.

Given the lack of response to previous empirical antibiotic therapy, bacterial component to potential chronic nonspecific hepatitis may be considered less likely. Empirically, continued Denamarin with



**PATIENT**

Bailey Savage

Ursodiol given its antioxidant and immunomodulatory effect, as well as presence of gallbladder debris, may prove beneficial. A hepatic biopsy would be required for further clarification.

**SPECIES**

Canine

**BREED**

West Highland Terrier

**SEX**

MN

**AGE**

11 years

**WEIGHT**

23.3 lbs.

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**IMAGING PERFORMED BY**

Diane McFadden

**HOSPITAL NAME**

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**REFERRING VET**

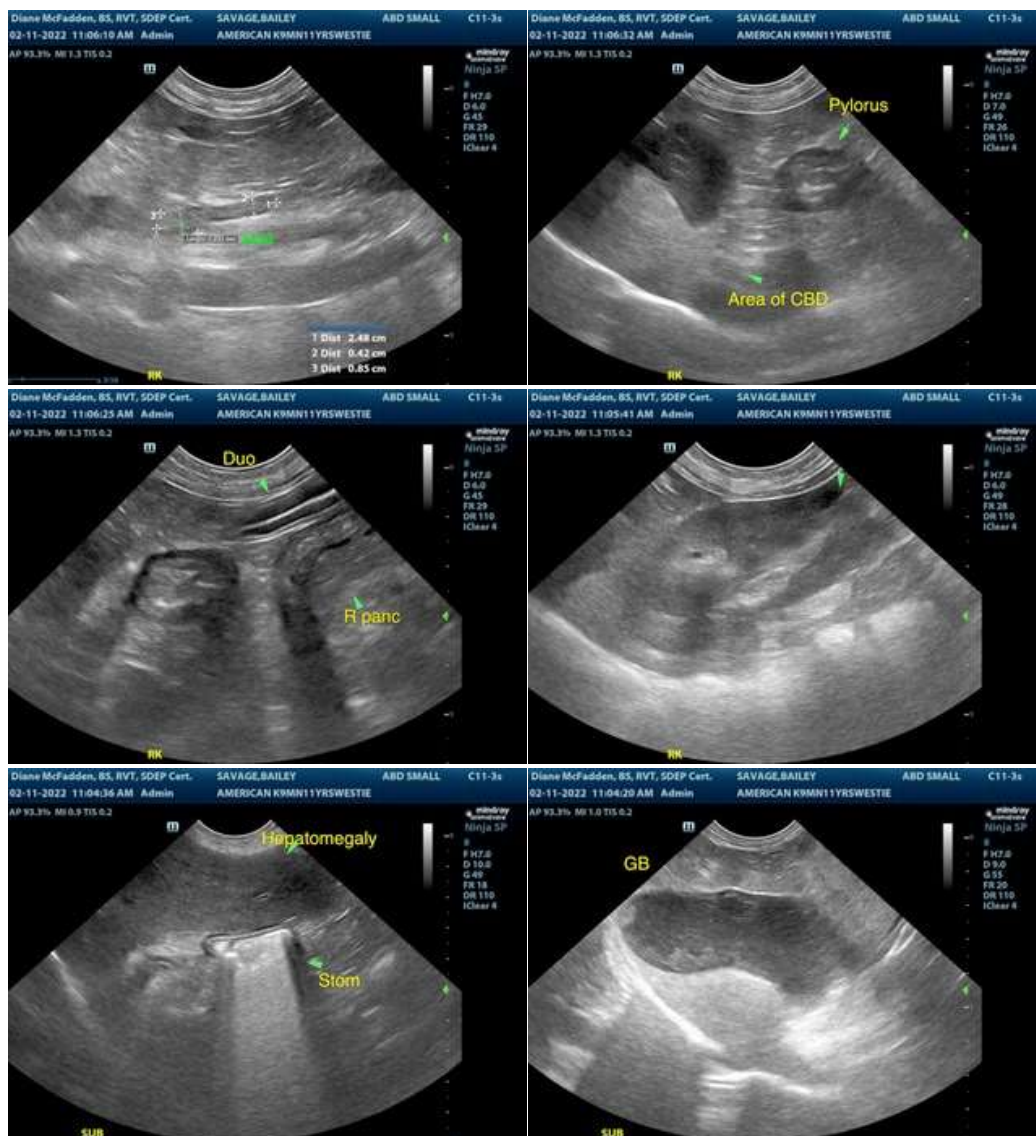
Dr. Arculli

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**PATIENT**

Bailey Savage

**SPECIES**

Canine

**BREED**

West Highland  
Terrier

**SEX**

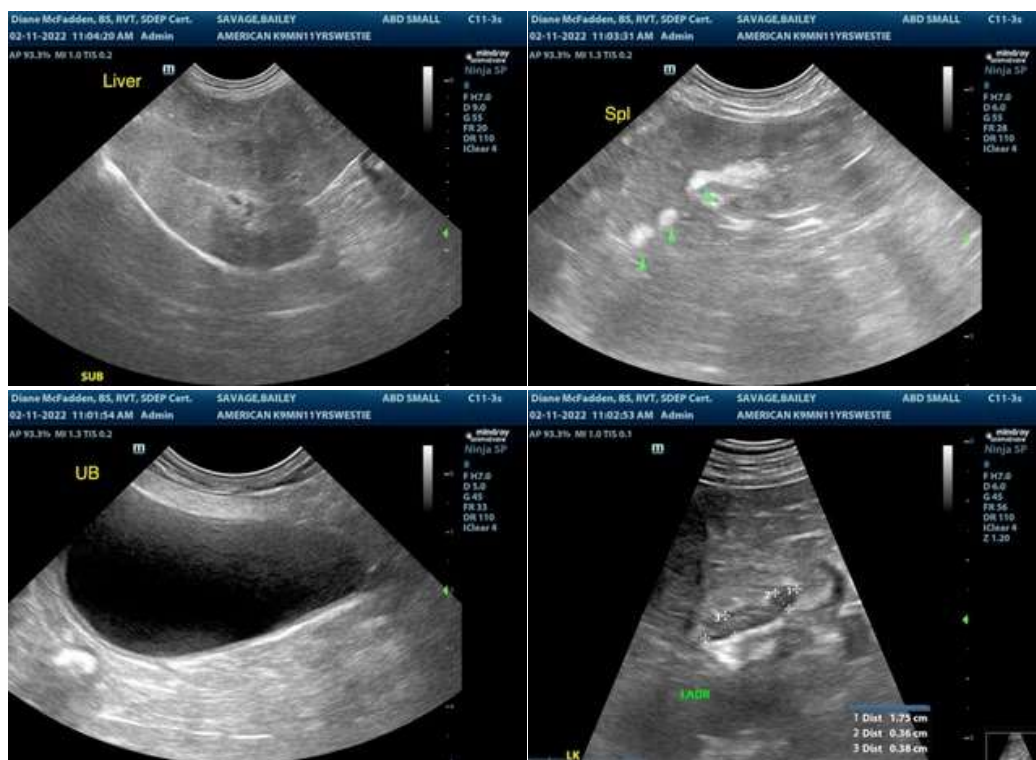
MN

**AGE**

11 years

**WEIGHT**

23.3 lbs.



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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)**  
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