



**PATIENT**

Charlie Williams

**SPECIES**

Canine

**BREED**

Poodle / Chinese  
Crested

**SEX**

NM

**AGE**

11 years

**WEIGHT**

22 lbs.

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Alex Emerson DVM

**HOSPITAL NAME**

Animal Clinic of  
Casselberry

**REFERRING VET**

Alex Emerson DVM

**INVOICE**

13400

**DATE**

2/23/22

**PRESENTING CLINICAL SIGNS**

Diabetic, controlled. Senior BW- elevated liver enzymes. On denamarin for 30 days. No improvement in values

Abnormal PE/Chem/CBC/UA Results: ALT 549 (12-118) ALP 265 (5-135) Glu 265

**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. 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 overt pathology was noted in the area of the residual prostate.

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 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. Pinpoint areas of medullary mineral were present. No evidence of pyelectasia was noted in either kidney. The left kidney measured 5.0 cm in length. The right kidney measured 4.3 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 0.46 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 0.40 cm width at the caudal pole and 0.43 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. Focal to intermittent, discreet, hypoechoic parenchymal nodules were present. An example of a discreet nodule measured 0.74 cm in diameter. 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, nonmineralized, luminal debris noted primarily along the inner-luminal wall. No evidence of peripheral gallbladder inflammation was noted. The cystic and common bile ducts were normal.



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***Gastrointestinal***

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained moderate ingesta exhibiting subtle progressive distal acoustic shadowing.

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.

***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.

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

***Primary Findings***

- Hepatopathy with focal to intermittent discreet hypoechoic parenchymal nodule to / nodules
- Mild gallbladder debris (non-mucocele) - likely incidental, potentially Indicative of mild cholestasis
- Mild age-related renal changes
- Mild pancreatic parenchymal remodeling - potentially age-related or patient variant and incidental, possible low-grade to chronic pancreatitis

***Secondary Findings***

- Gastric ingesta - probable post prandial presentation

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The overall appearance of the liver was nonspecific yet most consistent with benign hepatopathy / hepatomegaly. Reactive / metabolic / vacuolar hepatopathy (diabetic hepatopathy), inflammatory / immune-mediated hepatopathy, given the primarily elevated ALT, with focal to intermittent areas of hematopoiesis, or discreet nodular / regenerative hyperplasia are possible. Neoplastic criteria is considered a less likely differential diagnosis.

The addition of Ursodiol to Denamarin, given its anti-oxidant and immunomodulatory effect within the liver, as well as the presence of mild gallbladder debris, may prove beneficial. Assuming normal clotting status, ultrasound-guided FNA of the liver using a 25-gauge needle for screening cytology could be considered for further assessment primarily to assess for evidence of inflammatory cells.



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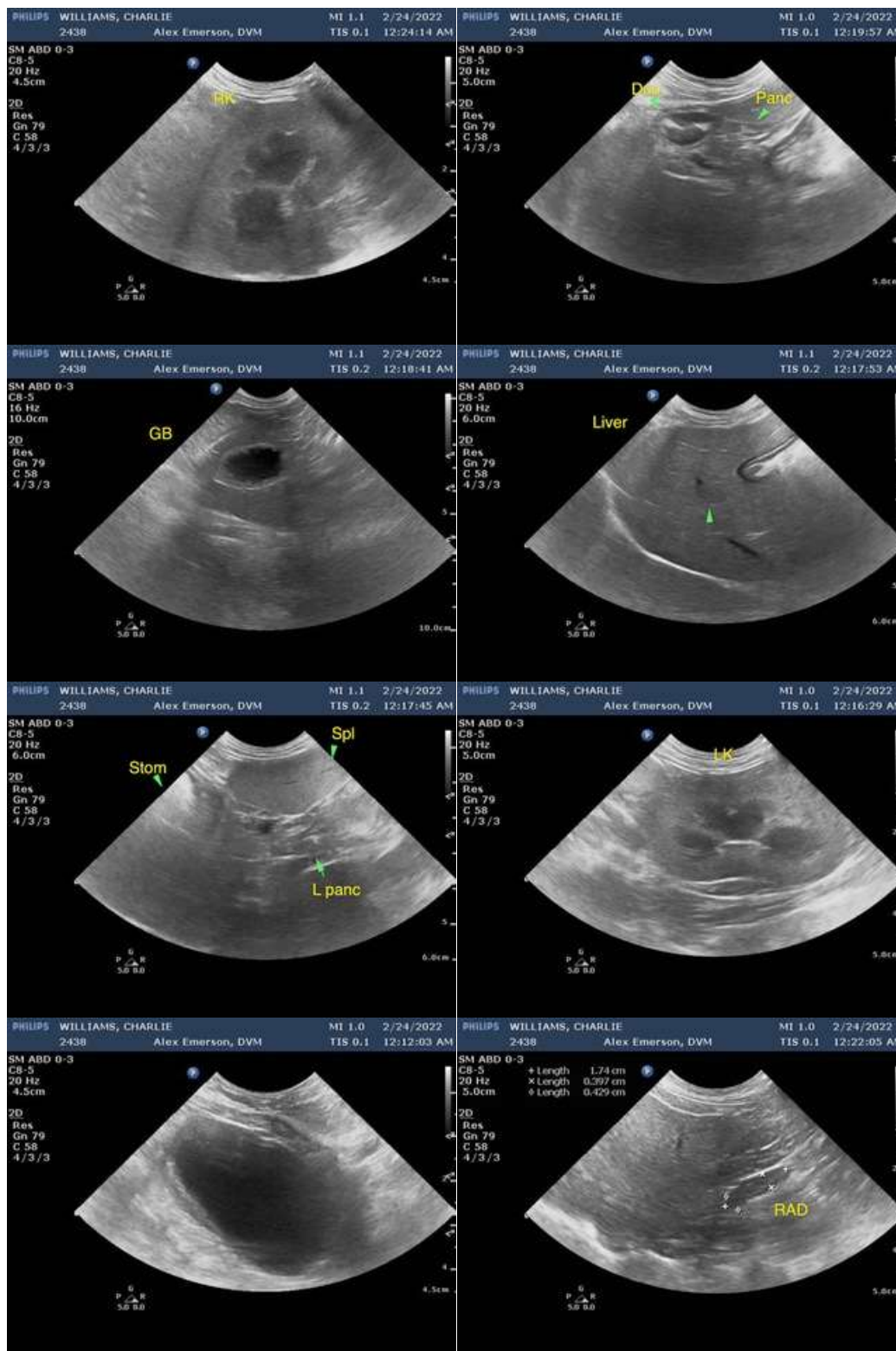
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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