



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT** Sophie Martin

**SPECIES** Canine

**BREED** Yorkie

**SEX** Spayed female

**History:** was seen at our hospital for transfer from rdvm. vomiting, decreased appetite, abdominal pain. Rdvm noted icterus. Elevated liver values in November 2021, dental postponed; improvement in liver values, dental was performed 12/2021. Previous Health Concerns: elevated liver values, arthritis, right ACL, allergies, dental disease w/ extractions Current Medications/Supplements/OTC: Dasuquin, Zyrtec ½ tablet 3 doses last week on 3 days Appetite/When did they eat last: decreased for a few days, yesterday ate bland diet beef and rice 1 time, Sunday ate small amount of own food Diet: science diet dry light formula Vomiting/Diarrhea: for 4 days fluid and food/1 time today Coughing/Sneezing: none

**Abnormal PE/Chem/CBC/UA Results:** Oral-Nasal-Throat: mm icteric, tacky, crt <2 Eyes: icteric sclera Abdominal: tense with palpation Results of Diagnostics: chem:BUN 6.7 L, phosphorus 7.6 H, calcium 8.7 L, ALT >1,000 H, ALP \*\*\* H, GGT 109 H, total bilirubin 11.8 H, lipase 477 H cbc:wbc 26.13 H, neu 21.02 H, mono 3.10 H, eos 0.02 L, lym 7.3% L epoc:lactate 5.54 H, BUN 6 L ALT dilution (factor x10) : 972 H

**AGE ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

7 years **Urinary System**

**WEIGHT** 7.5 kg

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 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 were noted.

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

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 4.9 cm in length. The right kidney measured 5.4 cm in length.

The area of the aortic trifurcation was free of pathology.

**IMAGING PERFORMED BY** Erin Wicks **Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.48 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 0.49 cm width at the caudal pole and 0.48 cm width at the cranial pole. No evidence of adrenal hyperplasia or neoplastic criteria was noted.

**HOSPITAL NAME** Shores Veterinary Emergency Center **Spleen**

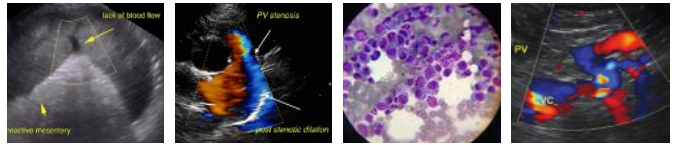
**REFERRING VET** Dr. Zippay

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.

**INVOICE** 10431ag **Liver**

**DATE** 04/20/2022

The liver presented with generalized enlargement in size and swollen hepatic capsule contour. The hepatic parenchyma revealed diffuse reduced echogenicity compared to the spleen and renal cortical



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parenchyma with a mild coarse echotexture. Increased portal vein prominence was evident. The capsule of the liver was normal in margination. Distinct masses or nodules were not evident. The hepatic and portal vasculature were normal in appearance. The gallbladder was non-distended in size with subtly prominent walls and primarily anechoic luminal content with moderate nondependent to organized yet potentially mild mobile luminal debris. No overt evidence of peri cholecystic inflammation or effusion. The cystic and common bile ducts were normal without evidence of post hepatic CBD obstruction.

**SPECIES**

Canine

**Gastrointestinal**

**BREED**

Yorkie

The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. The gastric body wall measured 0.47 cm width. Mild gastric distension with primarily anechoic fluid and mild luminal gas was present. No signs of ileus, obstruction or foreign material.

**SEX**

Spayed female

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 duodenum wall measured 0.30 cm in width.

**AGE**

7 years

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

**Pancreas**

**WEIGHT**

7.5 kg

The left and right pancreas exhibited subtle prominent size with symmetrical contour. Mild heterogeneous to subtly hypoechoic parenchyma compared to the adjacent omental fat was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**Free Abdomen**

**INTERPRETED BY**

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

Mild subjective peri hepatic reactive mesentery with focal pocket of scant peritoneal free fluid was noted. No overt lymphadenopathy was observed.

**ULTRASONOGRAPHIC FINDINGS**

**IMAGING**

**PERFORMED BY**

Erin Wicks

- Acute on chronic hepatopathy.
- Gallbladder mucocele.
- Potential low grade to chronic concurrent pancreatitis.
- Gastritis/gastroenteritis pattern.
- Minor peri hepatic reactive mesentery and focal scant free fluid.

**HOSPITAL NAME**

Shores Veterinary  
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**REFERRING VET**

Dr. Zippay

The liver was nonspecific yet suggestive of acute on chronic hepatopathy given the previous history of hepatic enzyme elevations yet exhibiting acute hepatopathy criteria. Acute on chronic inflammation, vacuolar hepatic changes, infectious hepatopathy, cholestasis or occult neoplasia are possible. Assuming normal clotting status an ultrasound guided FNA of the liver for screening cytology primarily to assess for and identify inflammatory cell type and rule out potential for neoplasia is warranted. Subjectively the gallbladder mucocele did not exhibit overt evidence of inflammation. Likewise, the degree of possible low grade to chronic pancreatitis was not overtly suggestive of primary active pancreatitis as the sole cause of the patient's clinical signs. However, potential clinical signs associated with emerging gallbladder mucocele as exhibited by cholestatic evidence cannot be definitively excluded. Aggressive medical therapy for acute on chronic hepatitis/choleangiohepatitis including broad spectrum antibiotics, gastric protectants, +/- analgesia with close monitoring of clinical response

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and lab work abnormalities would be reasonable. Potentially cholecystectomy with hepatic biopsies may be indicated if persistent/progressive liver enzyme elevation or clinical signs despite medical therapy.

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**IMAGING PERFORMED BY**

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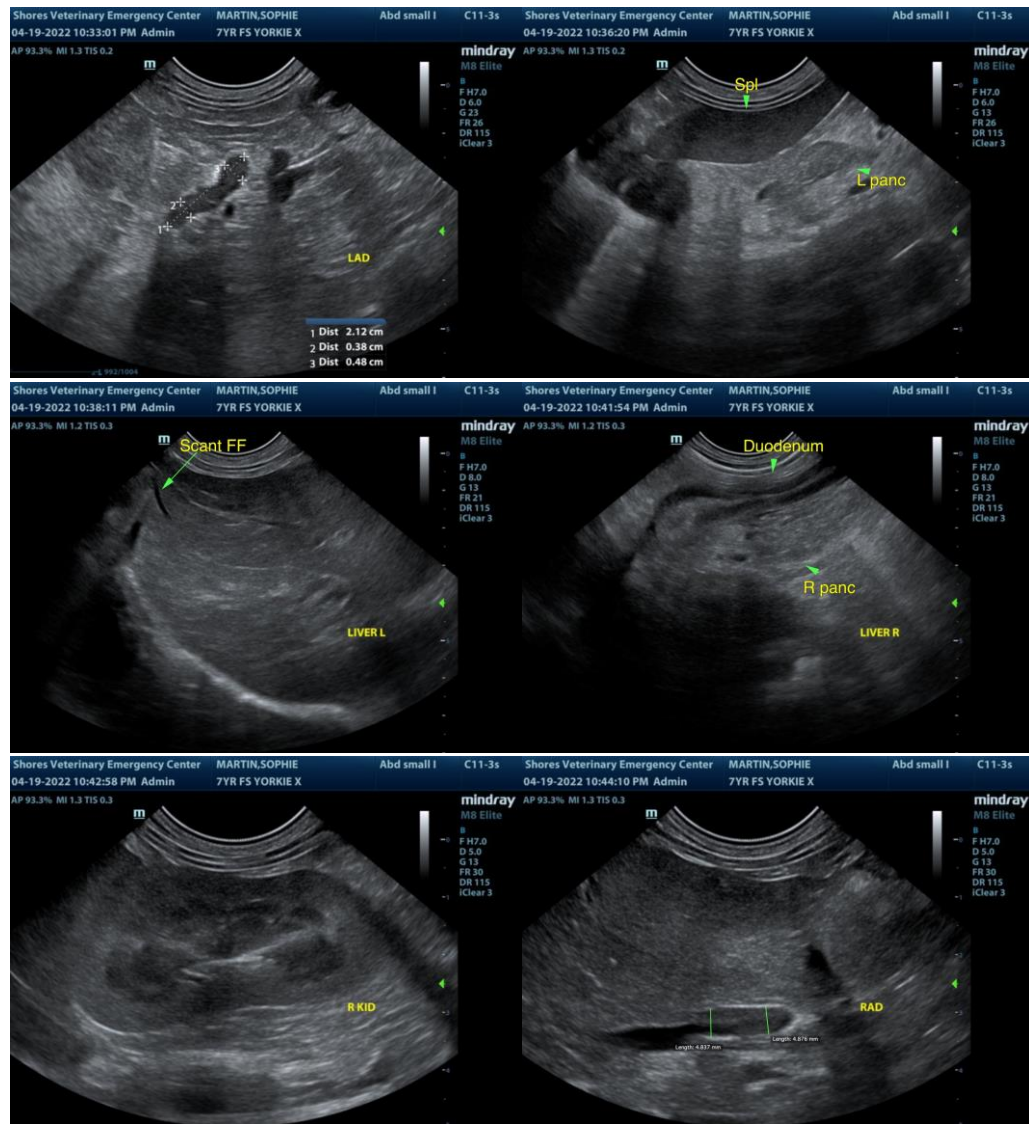
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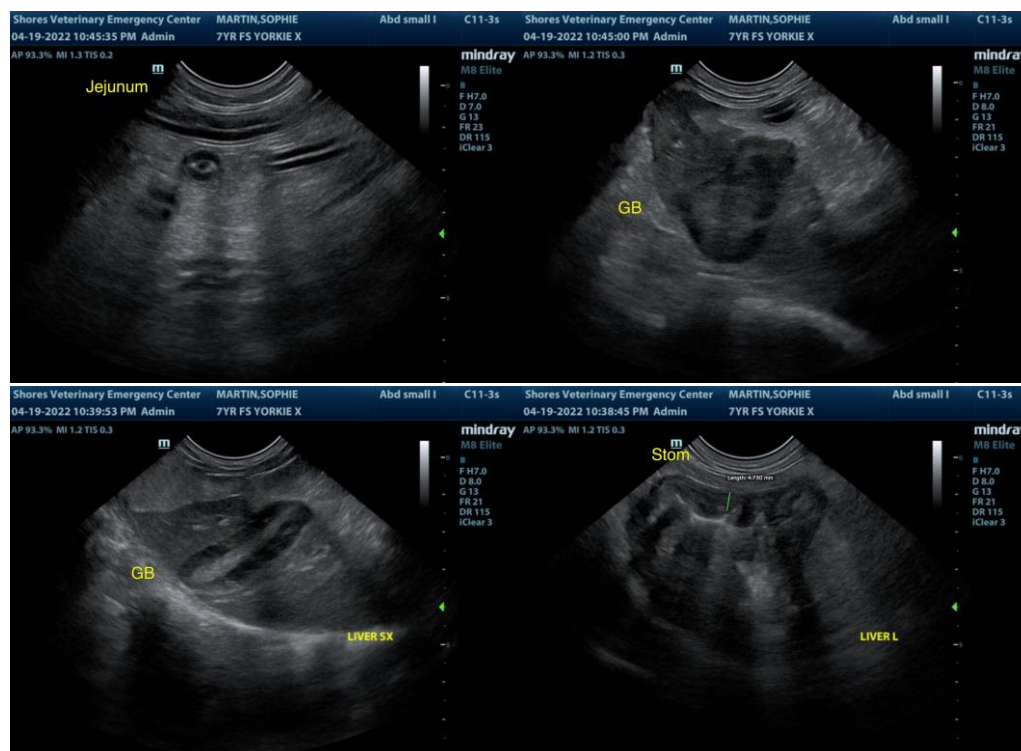
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Erin Wicks

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

## HOSPITAL NAME

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## REFERRING VET

Dr. Zippay

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