



**PATIENT**

Thunder Gillette

**SPECIES**

Feline

**BREED**

Norwegian Forest Cat

**SEX**

Neutered Male

**AGE**

10 Years 4 Months

**WEIGHT**

12.3 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Amanda Lacey Crook &  
Jasmine Palacios

**HOSPITAL NAME**

Rivers Edge PMC

**REFERRING VET**

Dr. Bridget Hayes

**INVOICE**

36784

**DATE**

4/11/22

**PRESENTING CLINICAL SIGNS**

Presented last night for lethargy and poor appetite, gradual onset x a few days. Somewhat thin, mildly dehydrated, abdomen seemed bloated. Current Medications: Baytril, Unasyn, buprenorphine, Vit K1. On IV fluids supplemented with KCl  
Abnormal PE/Chem/CBC/UA Results: Labwork - Very high BUN, Creat, WBC (neutrophilia). elevated ALT, all other liver values are normal. Low K+. See attached RAdiographs - nephroliths, gas density in area of the gall bladder, mild loss of serosal detail. see attached.

**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. Primarily anechoic urine was present in the lumen. Mild non-dependent 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.

Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. A focal non-obstructive medullary mineral to small renolith present in the left kidney.

The area of the aortic trifurcation was free of pathology.

**Adrenal Glands**

No overt pathology in the area of the left and right adrenal glands.

**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**

The liver exhibited potential mild generalized enlargement. The hepatic parenchyma revealed diffuse reduced echogenicity compared to the spleen and renal cortical 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 mildly echogenic to prominent gallbladder walls exhibiting sectorial gas reverberation artifact. Primarily anechoic content present with mild hyperechoic debris.

**Gastrointestinal**

The stomach presented intact yet mildly prominent wall layering with a normal wall layer ratio. Mild retained anechoic gastric fluid present, primarily in the antrum and pylorus. Gastric body wall measured 0.28 cm. Retained fluid extended into the area of the gastroduodenal junction with minor retained chyme and without overt evidence of mechanical pyloric outflow obstruction at the level of the gastroduodenal junction.



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A large, moderately expansive mural mass occupying the majority to entirety of the duodenum was present, potentially extending into the upper jejunum. This mural mass exhibited marked hypoechoic mural hypertrophy and loss of discernable wall layering. Associated duodenal metabolic to paralytic ileus exhibited by retained duodenal hyperechoic fluid was present. The duodenal mural mass measured approximately 7.0 cm in length with wall width up to 1.0 cm. Distal to the duodenal mural mass, the small intestine exhibited primarily intact wall layering and maintained 1:3 muscularis/mucosa ratio to the subjective level of the colon.

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

***Pancreas***

The pancreas was ill-visualized owing to the presence of the duodenal mural mass. Potential for pancreatic involvement into the mass cannot be excluded, with the possibility of concurrent mild inflammation. Regional, primarily perigastric and periduodenal mildly non-uniform hyperechoic mesentery noted along with intermittent mildly prominent yet hypoechoic pancreaticoduodenal lymph nodes and very scant pockets of free fluid.

**ULTRASONOGRAPHIC FINDINGS**

- Hepatopathy – subjectively acute.
- Emphysematous cholecystitis pattern
- Hypomotile stomach
- Large duodenal mural mass with associated metabolic to paralytic duodenal ileus
- Regional, primarily periduodenal peritonitis and non-specific pancreaticoduodenal lymphadenopathy
- Non-specific bilateral chronic renal changes with non-obstructive medullary mineral/small renoliths
- Urinary bladder sediment

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The duodenal mural mass meets neoplastic criteria, which is considered a primary differential diagnosis. Non-neoplastic etiologies such as severe inflammation or granulomatous duodenitis or similar possible, yet thought less likely. Concurrent to potentially associated acute cholangiohepatitis along with emphysematous cholecystitis suspected, although occult hepatobiliary neoplasia, given the presence of the duodenal mural mass, is possible.

Assuming normal clotting status and using 25-gauge needle, ultrasound guided FNA of the duodenal mural mass and liver is recommended for screening cytology and potential further staging with possible oncology consult.

Given potential for likely associated peritonitis with the possibility of pancreatic regional omental or lymphatic metastasis, surgical options may potential be limited in this case. Pending additional diagnostics, abdominal CT would likely be ideal for further assessment as well as surgical planning if potential surgical options are possible. 3-view chest radiographs recommended. Very guarded to potentially unfavorable prognosis.



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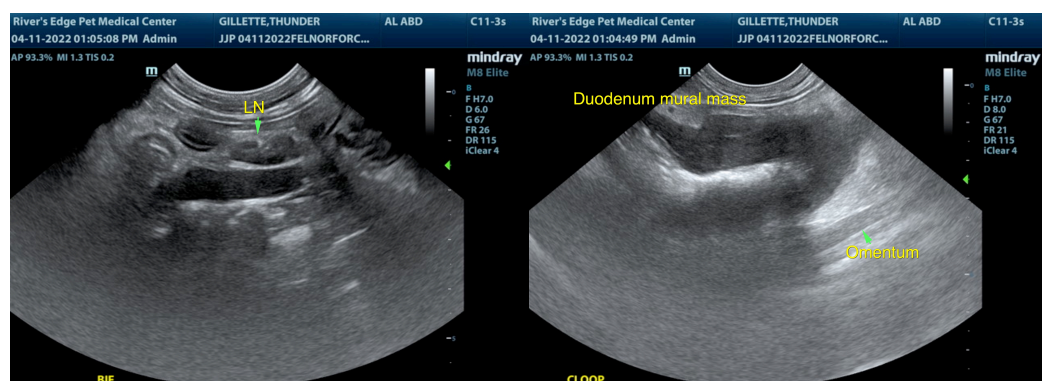
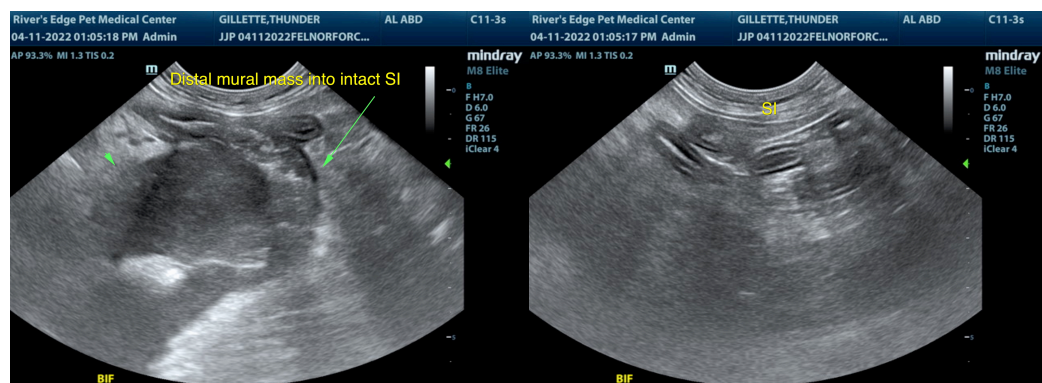
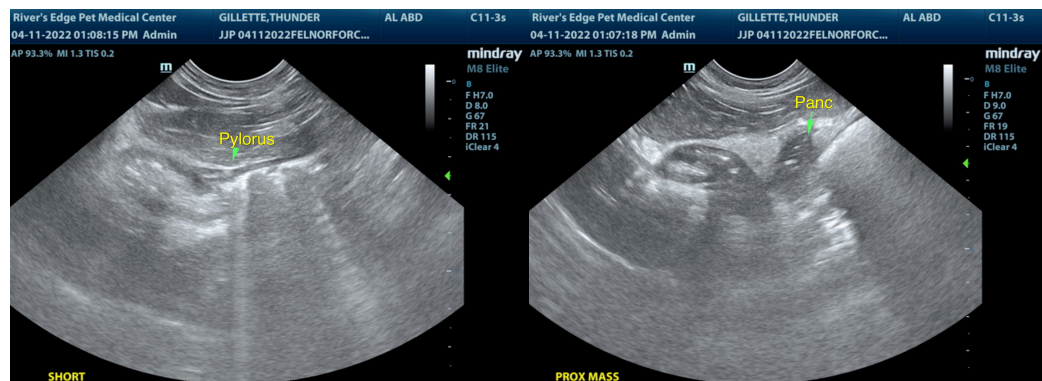
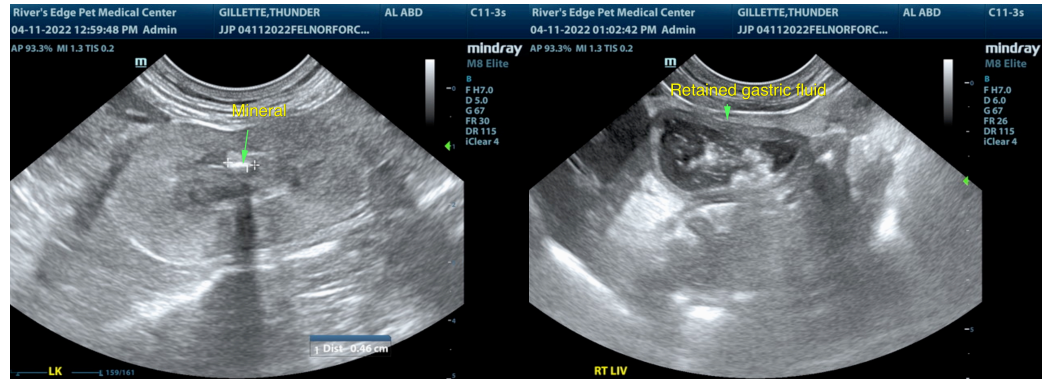
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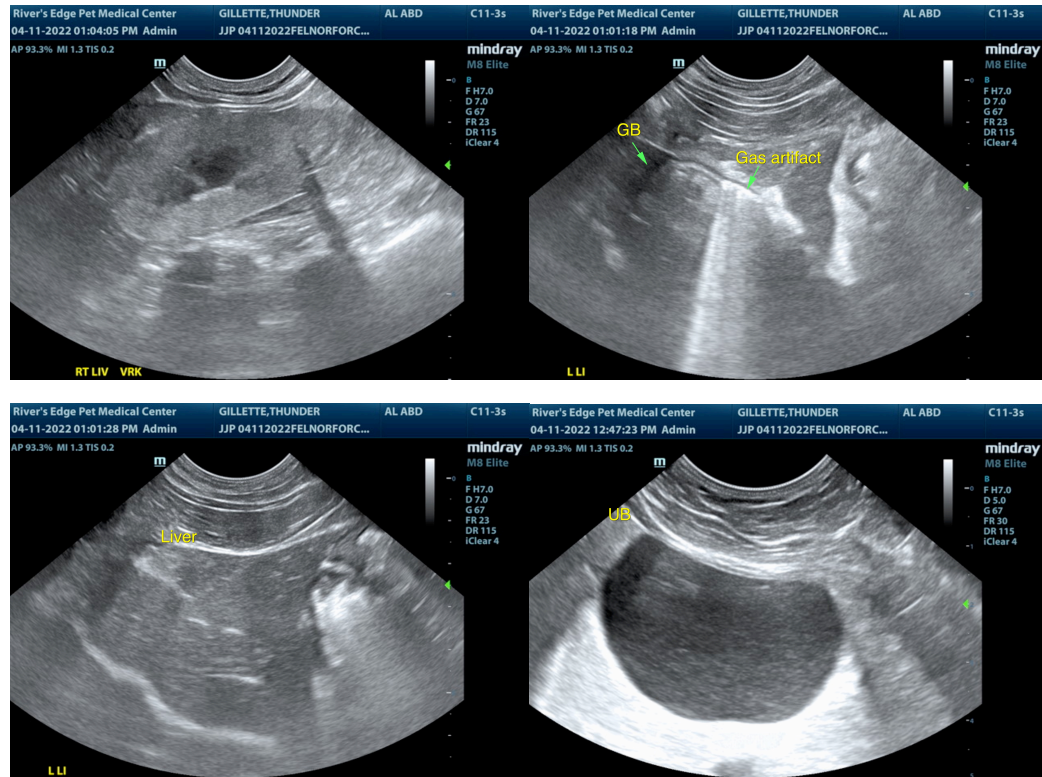
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

info@SonoPath.com