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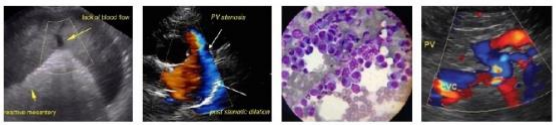


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

**PATIENT**

Chino Smith

**SPECIES**

Feline

**BREED**

Ragdoll

**SEX**

Neutered Male

**AGE**

12 years

**WEIGHT**

10 lbs

**INTERPRETED BY**

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

**IMAGING PERFORMED BY**

Kelly Reschny

**HOSPITAL NAME**

Dog&Cat Clinic Niagara

**REFERRING VET**

Nick

**INVOICE**

11041

**DATE**

6/8/22

## PRESENTING CLINICAL SIGNS

History: persistent elevation in liver values, concern for cholangitis, jaundiced

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. The region of the trigone is normal.

The left kidney is normal size (4.05 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (4.52 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The left adrenal gland is normal size (0.44 cm length; 0.19 cm width). Normal shape and glandular echogenicity. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.76 cm length; 0.38 cm width). Normal shape and glandular echogenicity. The phrenicoabdominal vein and surrounding vasculature are normal.

### *Spleen*

The spleen is normal in size (0.79 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. One to two small irregular, hyperechoic nodules are observed, measuring approximately 0.40 cm each. Splenic vasculature is normal.

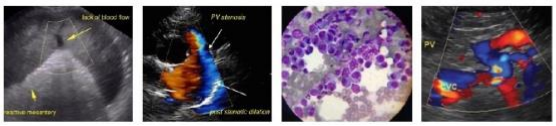
### *Liver*

The liver is subjectively prominent in size with slightly swollen peripheral contours. The parenchyma is hyperechoic relative to the spleen and subtly mottled in appearance. No distinct focal lesions are observed. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion. The portal vein to caudal vena cava ratio is approximately 1: 1.

The gall bladder is mildly to moderately distended. The wall is thickened (up to 0.46 cm), irregular and hyperechoic. Luminal contents are mostly anechoic. The cystic and common bile ducts are normal/not seen.

### *Gastrointestinal*

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering





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pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. There is disruption in the normal 1:3 muscularis: mucosal ratio in most segments. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

***Pancreas***

The left limb is prominent to enlarged, with minimal deviation from the normal peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat and subtly mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is visible but not overtly dilated (0.17 cm in diameter).

***Free Abdomen***

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- Nonspecific, diffuse hepatopathy. Differentials include inflammatory disease (i.e., bacterial cholangiohepatitis, lymphoplasmacytic hepatitis), early hepatic lipidosis, emerging neoplasia (i.e., lymphoma, other hepatopathy).
- Bowel pattern consistent with inflammatory bowel disease with some potential for emerging lymphoma.
- The pancreatic changes are suggestive of chronic pancreatitis.

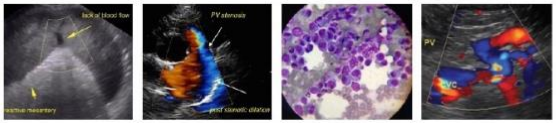
### Secondary Findings

- Bilateral, age-related renal changes
- The hyperechoic splenic nodules trends toward the benign (i.e., myelolipomas) with a lower possibility of emerging neoplasia.

  *Given the sonographic changes, “triaditis” is a consideration in this patient.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATION

- Consider hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy) to further investigate the elevated liver enzymes. Surgical biopsies would be ideal in that they are more likely to represent global organ pathology. Cytologic evaluation of the liver is best for evaluating for round cell neoplasia and hepatic lipidosis but is less useful in assessing for inflammatory diseases. If surgery is pursued, aerobic and anaerobic bile cultures are recommended, as well as acquisition of gastrointestinal biopsies. thoracic radiographs should be performed prior to anesthesia.
- Also consider a malabsorption panel, including serum cobalamin and folate, TLI and PLI.





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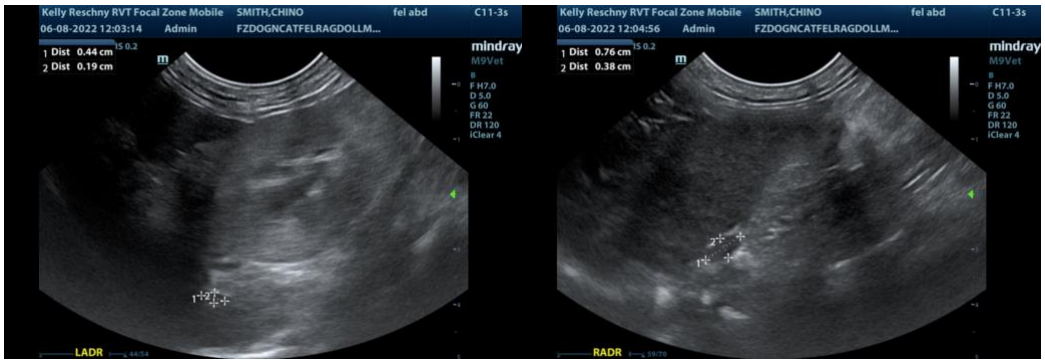
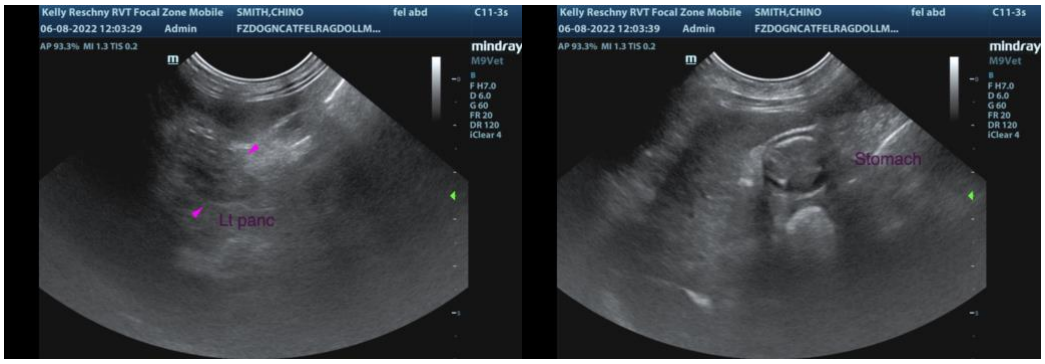
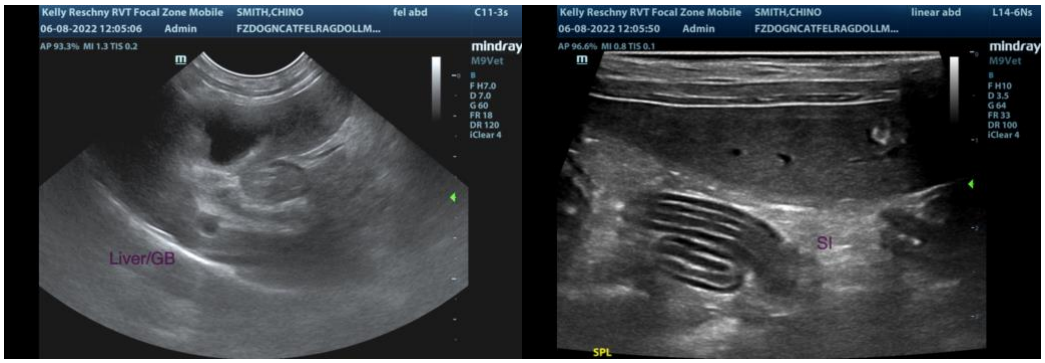
- In the meantime, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, +/-metronidazole, Denamarin), along with nutritional support (i.e., via a temporary feeding tube) to help prevent/treat hepatic lipidosis.




**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.

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