

**DATE PRESENTING CLINICAL SIGNS**

4/24/23

Elevated liver enzymes and hyperbilirubinemia found incidentally on bloodwork. Pet has since developed icterus but is otherwise clinically doing well at home. PE: mild icterus, otitis externa, bradycardia, severe dental disease

**PATIENT**

Rhino Johnson

Current Medications: Amoxi/Clav 16mg/kg PO BID x14 days, Metronidazole 16mg/kg PO BID x14 days  
 Denamarin Advanced Cats/Small Dogs - 1 tab PO SID

**SPECIES**

Feline

Lab Results: Elevated ALT (254), ALP (86), GGT (7) and bilirubin (0.7) on incidental bloodwork  
 Smaller panel recheck bloodwork after med trial - ALT 326, ALP 152, mild non generative anemia (HCT 24%), New mild probnp elevation (154)

**BREED**

Domestic shorthair

Date of Previous IntraPet Ultrasound: No previous.  
 T4 normal.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

**SEX**

Male, neutered

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. Luminal contents are anechoic. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

**AGE**

10/3/2007

The left kidney is normal size (3.53 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with poor corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**WEIGHT**

7.26 lbs.

The right kidney is normal size (3.85 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with poor corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

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

**Adrenal Glands**

The left adrenal gland is normal in size (0.43 cm width). Normal shape and glandular echogenicity. The phrenicoabdominal vein and surrounding vasculature are normal.

**HOSPITAL NAME**

Eastern AH

The right adrenal gland is normal in size (0.33 cm width). Normal shape and glandular echogenicity. The phrenicoabdominal vein and surrounding vasculature are normal.

**Spleen****REFERRING VET**

Dr. Cusack

The spleen is subjectively normal in size (0.86 cm in width at the level of the hilus) with an undulating peripheral margin. The parenchyma is subjectively hypoechoic and mottled in appearance. No distinct focal lesions are observed. Splenic vasculature is normal with no evidence of thrombosis.

**INVOICE**

14830

**Liver**

The liver is subjectively enlarged with swollen, slightly irregular peripheral contours. At least 2 mildly heterogeneous masses are observed, the largest measuring 5.04 cm in diameter. One of the masses contains multi-septated cysts. The remaining parenchyma is mildly heterogeneous, bordering on nodular in appearance. Vascular and 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 lumen is mildly to moderately distended. The wall is thickened (up to 0.20 cm) and hyperechoic. A small amount of suspended echogenic debris is observed within the lumen. The cystic and common bile ducts are subjectively thickened. The lumen of the cystic and common bile duct is not overtly dilated. The duodenal papilla is normal in size (0.43 cm in width).

### ***Gastrointestinal***

The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with retention of the normal layering pattern. There is slight disruption in the normal 1:3 muscularis to mucosal ratio in most segments. At the ileocecolic junction, the wall is focally thickened (up to 0.94 cm) at the level of the proximal colon with loss of the normal layering pattern. The remaining colonic wall is normal in thickness with a normal layering pattern. There is no evidence of an obstructive pattern.

### ***Pancreas***

The pancreas is diffusely prominent in size with slightly irregular peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is dilated (up to 0.43 cm).

### ***Free Abdomen***

Trace free fluid is observed. A few enlarged rounded hypoechoic to slightly heterogeneous mesenteric lymph nodes are visualized, the largest measuring 2.69 cm in diameter. A 0.65 cm jejunal lymph node is also seen just medial to the spleen. Surrounding mesentery is hyperechoic.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings:**

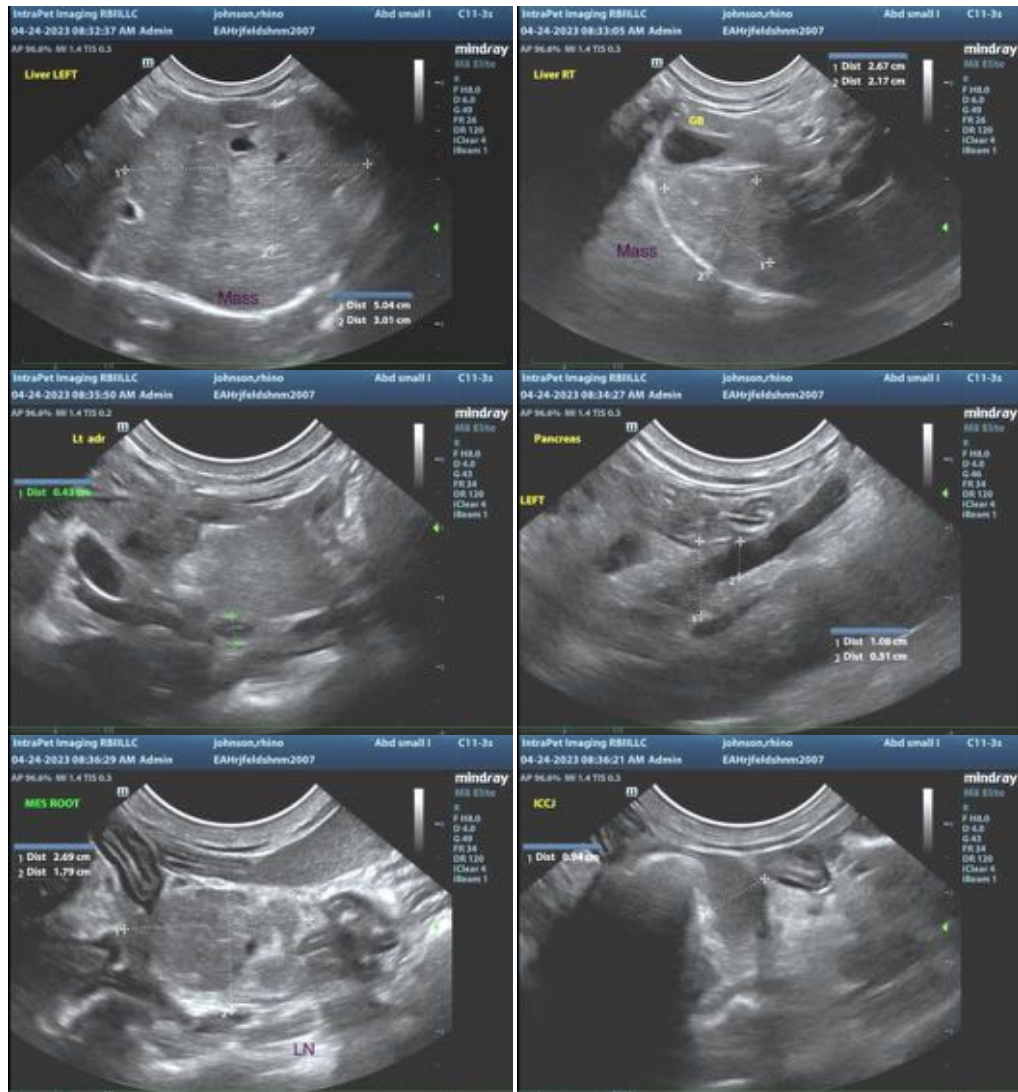
- The hepatic masses could be consistent with biliary cystadenoma, biliary cystadenocarcinomas, other. The diffuse hepatic parenchymal changes are non-specific and may be secondary to infiltrative neoplasia, inflammatory disease, hepatic lipidosis or some combination thereof.
- The gallbladder and cystic/common bile duct changes are consistent with cholecystitis/cholangitis.
- The focal thickening at the ileocecolic junction is concerning for infiltrative neoplasia (i.e., lymphoma, adenocarcinoma) with a lower possibility of an inflammatory process.
- The abdominal lymphadenopathy is also concerning for infiltrative neoplasia (i.e., lymphoma). However, reactive lymphadenitis or lymphoid hyperplasia cannot be completely excluded.
- The splenic changes are concerning for infiltrative neoplasia. However, a benign process (i.e., lymphoid hyperplasia, extramedullary hematopoiesis or similar) is also possible.
- The diffuse small intestinal wall changes could be consistent with inflammatory bowel disease or emerging lymphoma.
- Trace ascites.

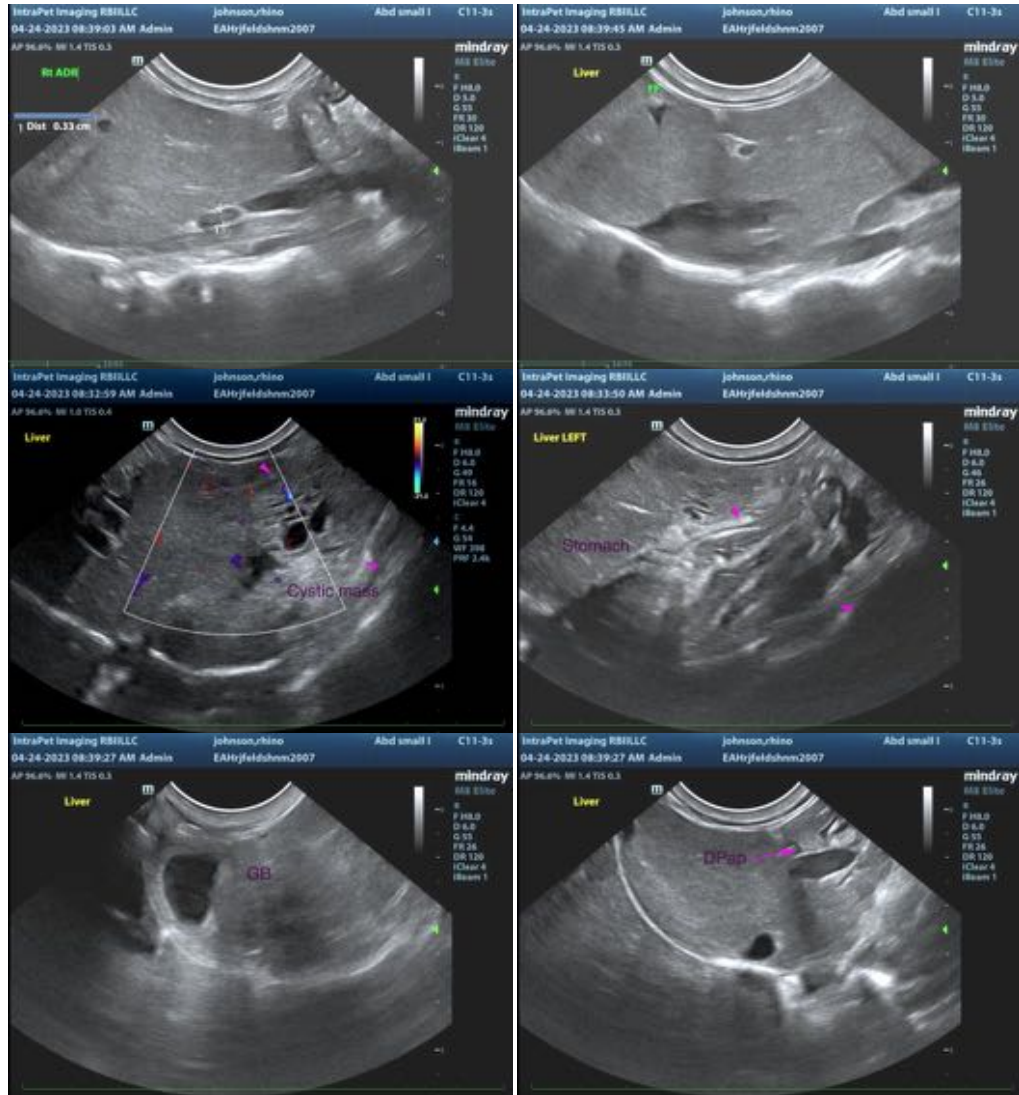
### **Secondary Findings:**

- Bilateral, chronic degenerative renal changes.
- The pancreatic changes are most consistent with chronic pancreatitis.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Feline leukemia and FIV testing is recommended, if not already performed.
- Three-view thoracic radiographs are recommended to assess for lymphadenopathy in the chest.
- Consider fine needle aspirates of the liver, spleen, enlarged mesenteric lymph nodes +/- the focal thickening at the ileoceocolic junction (if accessible) if clotting status is appropriate. 25-gauge needles should be used. If cytology results are inconclusive, surgical biopsies may be necessary to get a definitive diagnosis.
- A malabsorption panel including serum cobalamin, folate, TLI and PLI is also recommended to assess for maldigestion/malabsorption and pancreatitis.





The information and recommendations provided are based on the images presented by the referring veterinarian. 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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)  
 info@SonoPath.com