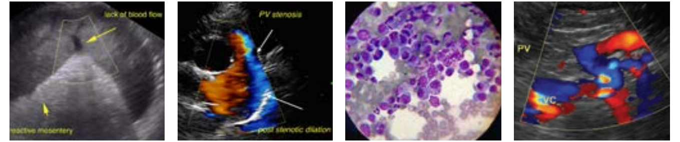
SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™



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1-800-838-4268 info@sonopath.com

PATIENT

Mikey Crumlich

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

14 Years

WEIGHT

5.2 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Erin Wicks

HOSPITAL NAME

Shores VEC

REFERRING VET

Dr. Lupole

INVOICE

45589

DATE

3/1/23

PRESENTING CLINICAL SIGNS

Presented at our hospital for vomiting and extreme lethargy. Vomited started 2 days ago. Vomited 4-5 days. Received Solensia injection 2-3 weeks ago. Had vomited for 2 days post and then did well. Previous Health Concerns: Constipation every 3 months for the past few years. Current Medications: Miralax Appetite/When did they eat last: Last PM

Abnormal PE/Chem/CBC/UA Results: rDVM Bloodwork 2/2: BUN 27 N, Creat 1.1 N, ALT 193 H, ALP 93 N, GGT 4 N, Total bilirubin 0.4 N Radiographs: hepatomegaly, gas filled stomach with no obvious foreign material, empty SI, normal kidney size/shape, very small/empty urinary bladder with no radio-opaque bladder stones noted. Chemistry: WBC 1.59 L, PMN 11 L, Eos 0.05 L, PMN% 298%L, Lymph% 49.8 H, Mono% 15.9H, Bas% 1.3H CBC: BUN 40.5 H, Creat 2.4 H, ALT 273 H, ALP 96 H, GGT 14 H, Total bilirubin 1.3 H EPOC: Ca 1.19 L, Lactate 7.37 H, BUN 44 H, Creat 2.95 H Urinary bladder too small for UA

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is only mildly distended (empty). Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

Kidneys are large in size (right 4.86, left 4.86 cm) with increased cortical echogenicity. Normal smooth peripheral margination and shape are maintained. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (0.40 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (1.09 cm long x 0.35 cm at the cranial pole and 0.33 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

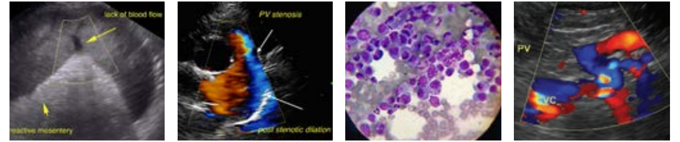
Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. Several nodules of mixed echogenicity are noted, primarily hyperechoic with cystic areas. One measures 1.5 cm in diameter, and a 2nd smaller nodule measures 0.60 cm x 1.1 cm. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. The cystic and common bile duct are tortuous in appearance and mildly dilated, measuring 0.42 cm.



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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is moderately to markedly overdistended with fluid and echogenic suspended debris, consistent with chyme.

The visible small intestines are normal in wall thickness and layering. Bowel is diffusely mildly fluid distended without evidence of an obstructive pattern, plication and/or visible foreign material. Small intestinal hyperperistalsis is noted.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Hypoechoic hepatomegaly with a tortuous, mildly distended biliary system** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered. The tortuous, mildly distended biliary system is consistent with a mild post-hepatic contribution to the cholestasis, possibly secondary to cholangitis versus other.

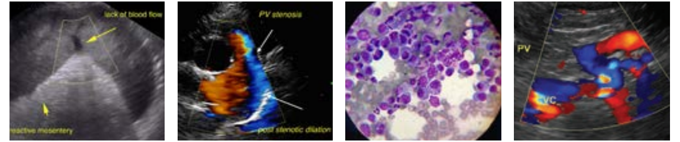
- **Feline biliary cystadenomas –** In a senior cat, these liver lesions are most consistent with benign biliary cystadenomas. Malignancy cannot be ruled out but is considered less likely give lack of clinical signs and/or laboratory changes.

- **Gastroenteritis with concurrent suspected delayed gastric outflow or gastric stasis/ileus caused by the same underlying condition –** Consistent with irritation secondary to dietary indiscretion or intolerance, infection (bacterial, viral, other), parasitic or protozoal disease, toxin, other metabolic disease such as pancreatitis, other. A partial obstruction can't be ruled out but is not visibly apparent and would be atypical with diffuse distention.

- Chronic active pancreatitis

- **Feline renomegaly –** These renal changes can be seen with glomerular or interstitial nephritis, FIP, amyloidosis, acute tubular necrosis or infiltrative neoplasia such as lymphoma. Normal variant due to fat deposition cannot be ruled out but is less common in an enlarged kidney.

**These findings are consistent with possible cholangiohepatitis, pancreatitis, gastroenteritis (i.e,. Triaditis), with a post-hepatic cholestasis contributing to the mildly increased total bilirubin. However, given the hepatomegaly, renomegaly, etc., infiltrative disease cannot be ruled out.



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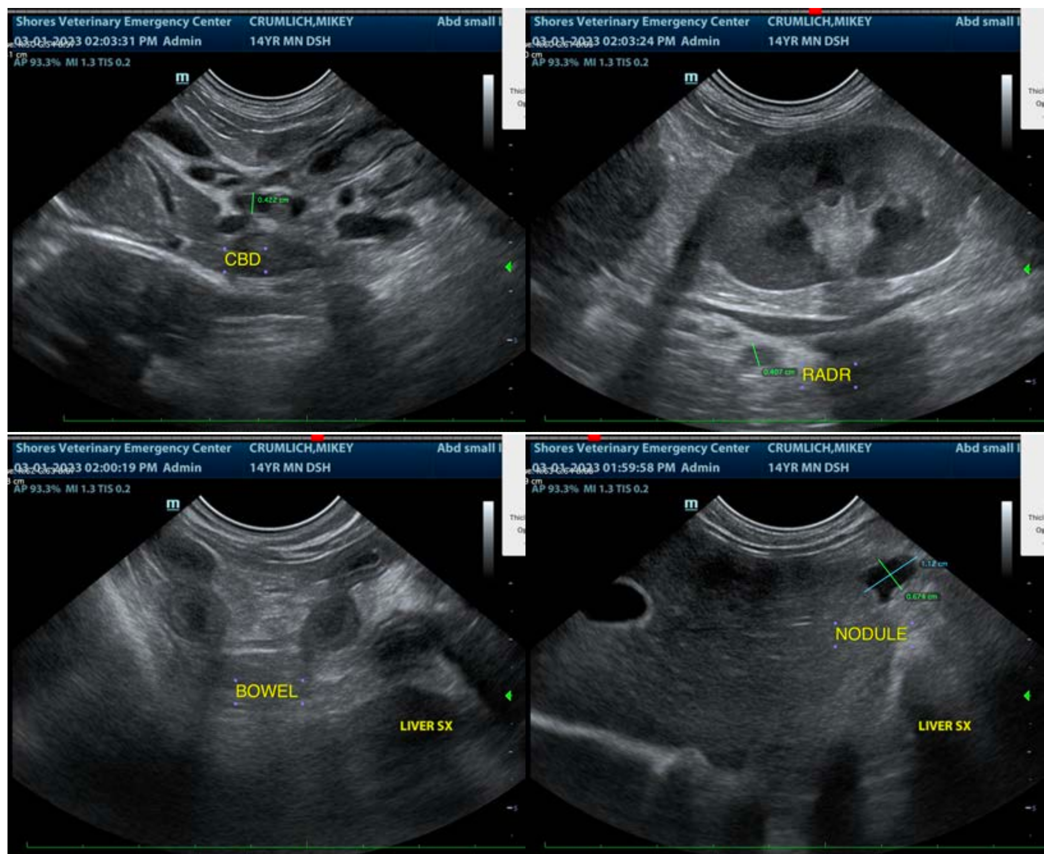
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Fine needle aspirates of the liver +/- the kidneys are recommended if patient's coagulation status is appropriate. If a diagnosis is not obtained cytologically from these aspirates, a bone marrow cytology could also be considered, given the reported leukopenia.

In the meantime, treatment recommendations include fluid therapy, anti-emetics, gastroprotectants, hepatic nutraceuticals such as ursodiol and/or Denamarin, and broad-spectrum antibiotics. Nutritional support is critical to prevent/manage concurrent hepatic lipidosis, so appetite stimulants and/or, if indicated, feeding tube placement is also recommended. Empirical deworming with a 5-day course of Panacur is also recommended.



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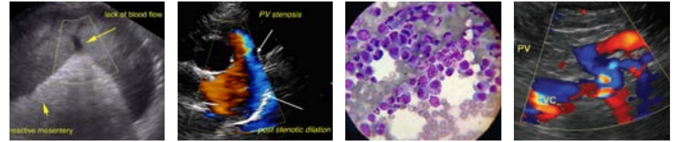

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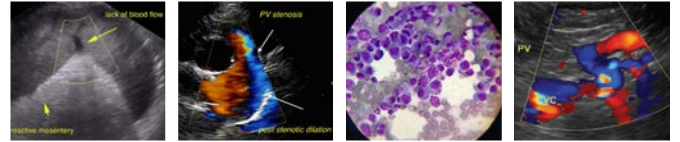

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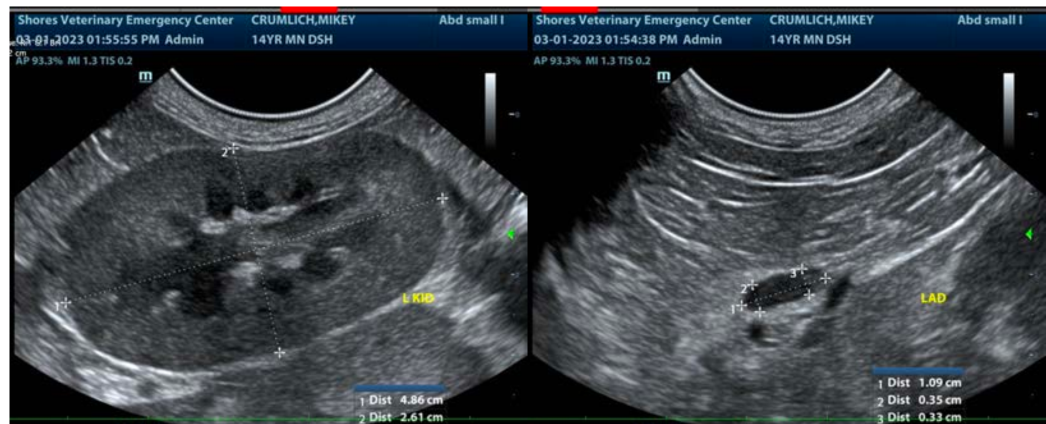

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com