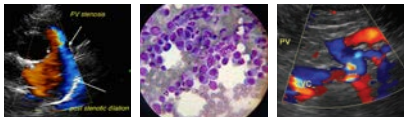
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE

8/10/22

PATIENT

Boh Drumm

SPECIES

Canine

BREED

Labrador X

SEX

Neutered Male

AGE

9/23/13

WEIGHT

38 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Northwind AH

REFERRING VET

Dr. Miller

INVOICE

40311

PRESENTING CLINICAL SIGNS

Hx of gastrointestinal episode in 02/22. Hypoalbuminemia noted with mildly increased ALT/ALP. Presented 7/29/22 for pyoderma. No major changes from previous bloodwork noted on bloods performed 7/29/22.

Current Medications: Convenia 1.7ml SQ 7/29/22.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (5.96 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (5.57 cm), shape and echogenicity. It has smooth peripheral margination. 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

Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measures 1.73 cm long x 0.22 cm at the cranial pole and 0.26 cm at the caudal pole. The right adrenal gland measures 1.54 cm long x 0.31 cm at the cranial pole and 0.31 cm at the caudal pole.

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 normal to subjectively small in size with slightly undulating or scalloped capsular contour or margins. Parenchyma is diffusely heterogenous with increased portal markings and coarse architecture. No focal nodules or masses are observed. 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. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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

Pancreas

The observed pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and irregular in shape with a swollen undulating contour. Enhanced hyperechoic ill-defined surrounding fat is noted.

Free Abdomen

A minor amount of anechoic free fluid is present throughout the images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Mild to moderate acute pancreatitis
- **Changes suggestive of a chronic inflammatory hepatopathy** – An obvious cause is not known. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.
- **Flat adrenal glands** – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The images described here reveal several potential causes for the hypoalbuminemia, including pancreatitis, decreased liver function, hypoadrenocorticism, and/or even gastrointestinal disease, despite lack of visible evidence of protein losing enteropathy, can't be ruled out. Therefore, recommendations include:

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.

A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

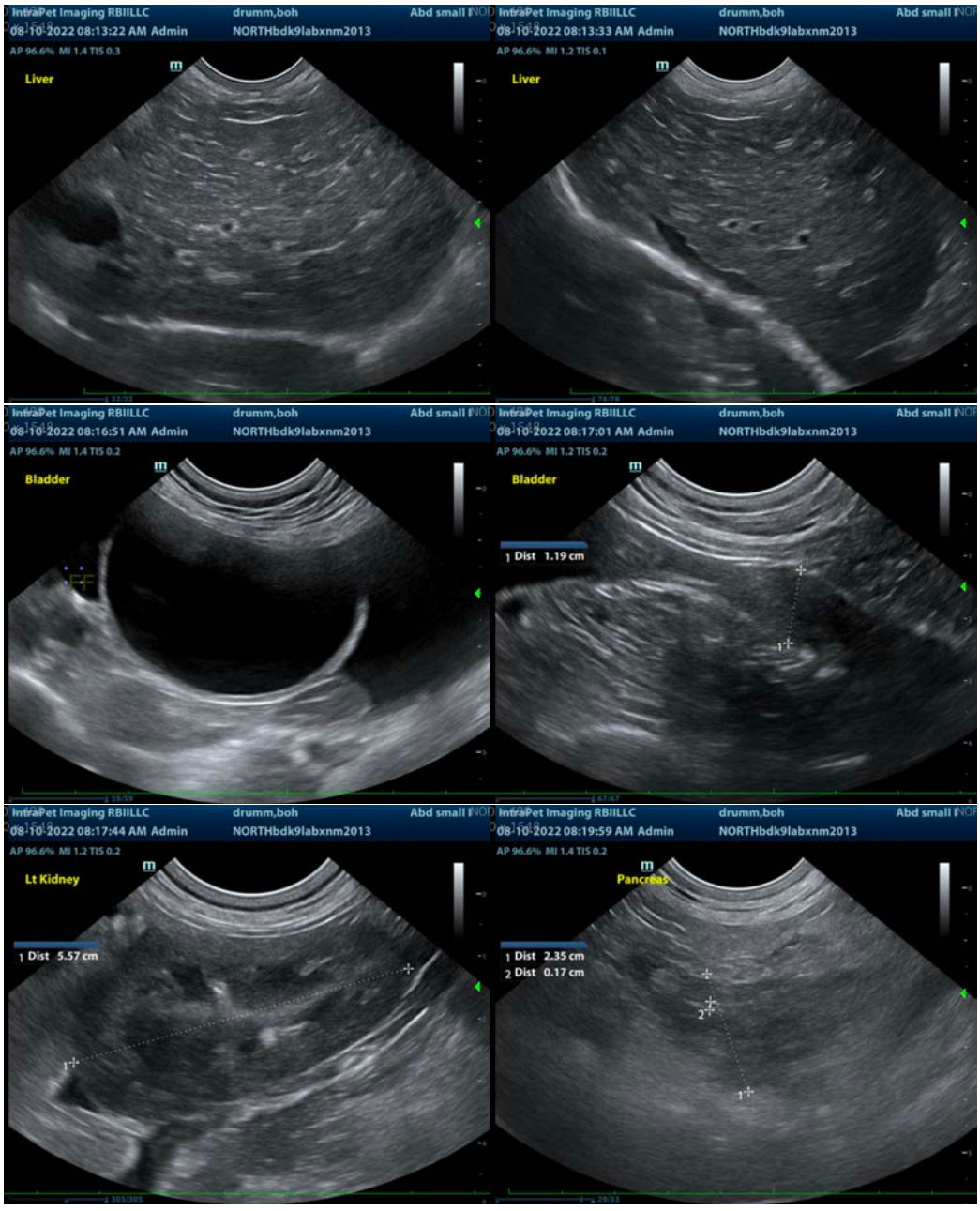
Bile acids is recommended for further evaluation of hepatic function.

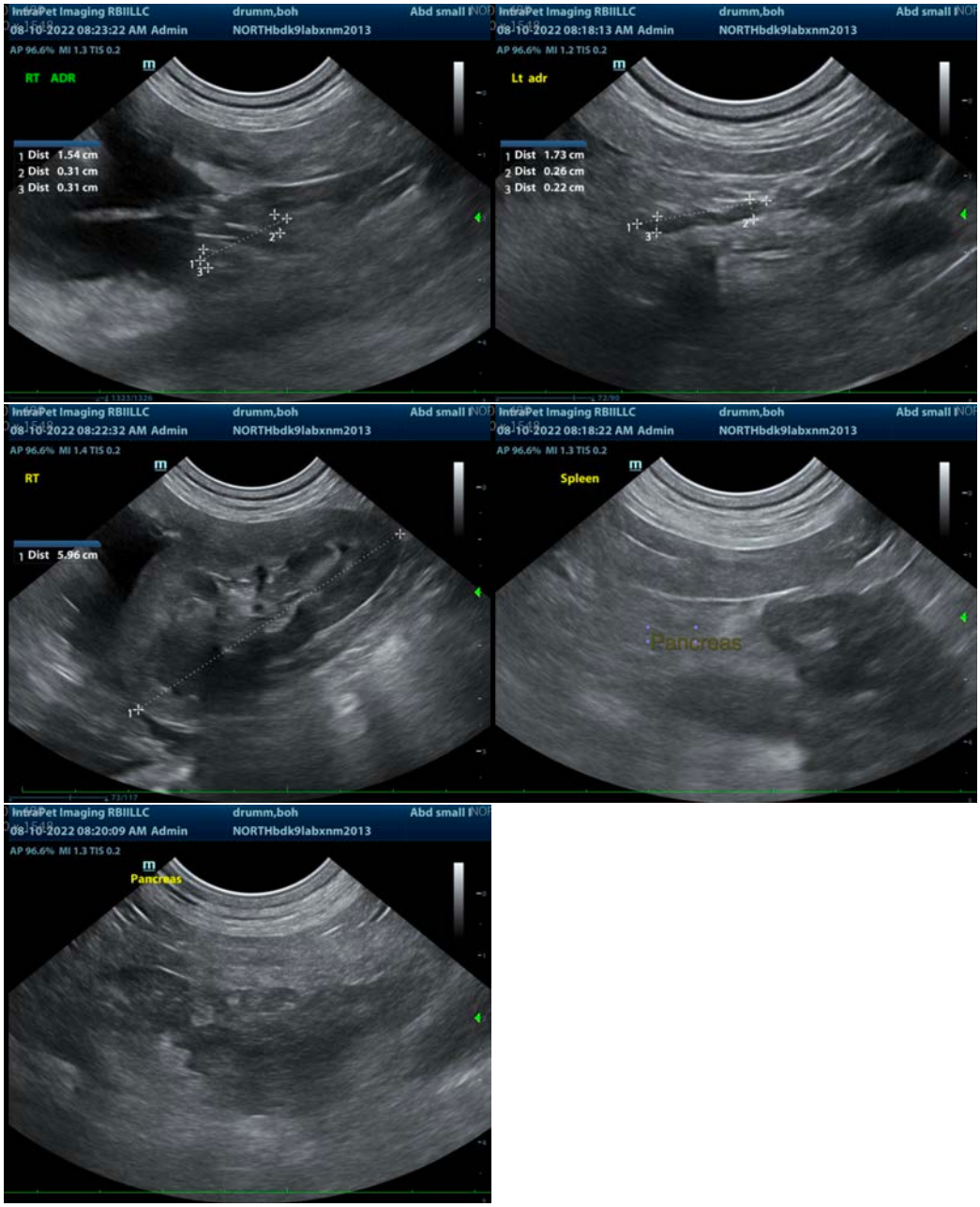
Testing for Leptospirosis is indicated if not recently evaluated.

In the meantime, medical management of pancreatitis as well as an acute hepatopathy is recommended in the form of gastrointestinal supportive/symptomatic care, if indicated based on clinical signs. However, if this patient is not clinical currently, then therapeutic recommendations include transition to a low-fat diet empirically as well as a course of empirical antibiotics and hepatic nutraceuticals with monitoring of the liver enzymes for improvement while waiting for results of pending diagnostics.

Ultimately, if liver enzymes do not improve and/or progress, and/or bile acids come back increased, liver sampling in the form of a fine needle aspirate to assess inflammatory cell type, rule in/out round cell neoplasia, etc., or a liver biopsy including tissue for a culture as well as copper level assessment may be required to definitively diagnose the underlying hepatopathy suspected.

If evidence of gastrointestinal disease is present in the gastrointestinal panel, concurrent biopsies of the bowel would be recommended.





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