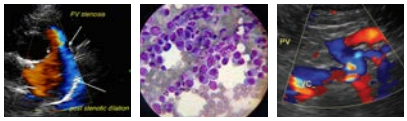
IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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**DATE**

1/6/23

**PATIENT**

Rio Benson

**SPECIES**

Canine

**BREED**

Portugese Water Dog

**SEX**

Neutered Male

**AGE**

6/30/14

**WEIGHT**

40 Pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**HOSPITAL NAME**

Jacksonville VH

**REFERRING VET**

Dr. Burk

**INVOICE**

43970

## PRESENTING CLINICAL SIGNS

HX diarrhea since 5/2022, was treated with metronidazole and fortiflora
1/3/23 PE: Not eating well. Stools have been normal recently. Decreased muscle mass- generalized. Isolated episode (x2) of vomiting before Christmas. Left eye conjunctiva inflamed. Weight hx: 5/4/22: 46.4 pounds; 1/5/22: 49 pounds; 2/20/20: 52 pounds; 12/6/18: 55 pounds

Current Medications: Panacur 4g SID, Amoxicillin 400mg BID, NeoPolyBac ophth ointment into left eye BID
Lab Results: 1/3/23: CBC: WBC 24.51K increased (5.05-16.76), Neutrophils 19.56 increased (2.95-11.64), Monocytes 1.49 increased (0.16-1.12), EOS 1.5 increased (0.06-1.23). CHEM: T Protein 4.9 low (5.2-8.2), ALB 2.0 low (2.2-3.9), Glob 2.9 normal (2.5-4.5), ALT 168 increased (10-125), Chlo 109 decreased (110-320). U/A sg 1.050; pH 6.5; protein negative; bil 3; sediment NSF
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: STAT requested.
Imaging Performed By: Rachel Brilhart, RDMS.

## 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 (6.06 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 (6.11 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*

The right adrenal gland is normal in size (2.97 cm long x 0.77 cm at the cranial pole and 0.61 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (2.65 cm long x 0.88 cm at the cranial pole and 0.80 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*

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is subjectively mildly overdistended with anechoic bile as well as mild suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

### *Gastrointestinal*

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The stomach is mildly fluid and gas distended, with no evidence of obstruction, foreign material or infiltrative disease. 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). However, hyperechoic mucosal fogging/speckling is noted diffusely. The bowel is diffusely mildly fluid distended, empty with no evidence of obstruction, plication, and/or visible foreign material. However, small intestinal hyperperistalsis is noted.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are liquid.

### *Pancreas*

The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*

A small amount of anechoic free abdominal fluid is present.

The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

Ringdowns are present at the level of the diaphragm.

## PRIMARY FINDINGS

- **Mucosal speckling –** Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state. The hyperperistalsis and fluid distention is 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.

- **Reactive mesenteric lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely.

- **Small amount of anechoic free abdominal fluid** – Possibly secondary to the reported hypoalbuminemia.

- **Ringdowns at the level of the diaphragm** – suggestive of concurrent pulmonary pathology.

## SECONDARY FINDINGS

- **Mild gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili. Given that the gallbladder appears

subjectively mildly overdistended, the mild debris may be more significant, but should still be interpreted with clinical signs, laboratory changes, etc., as it may be incidental secondary to the decreased appetite, etc.

- **Pancreatic age-related remodeling –** Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

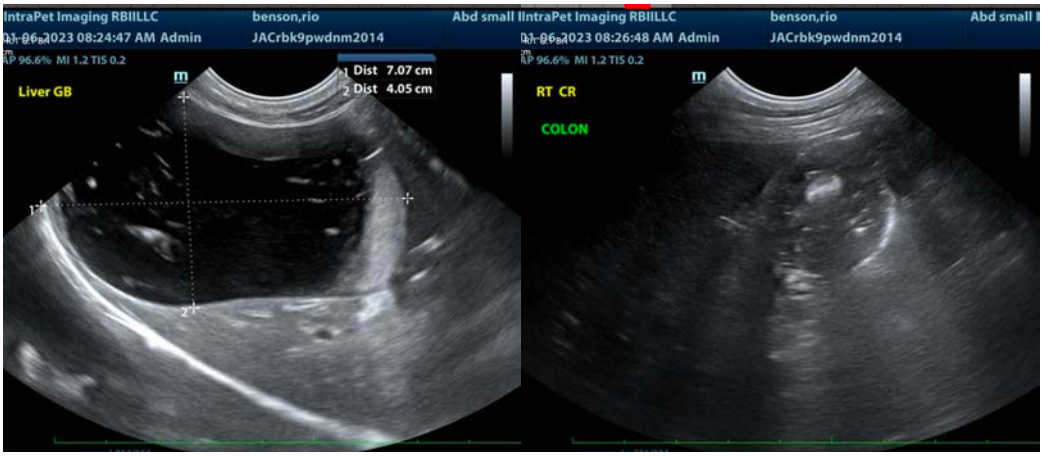
Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

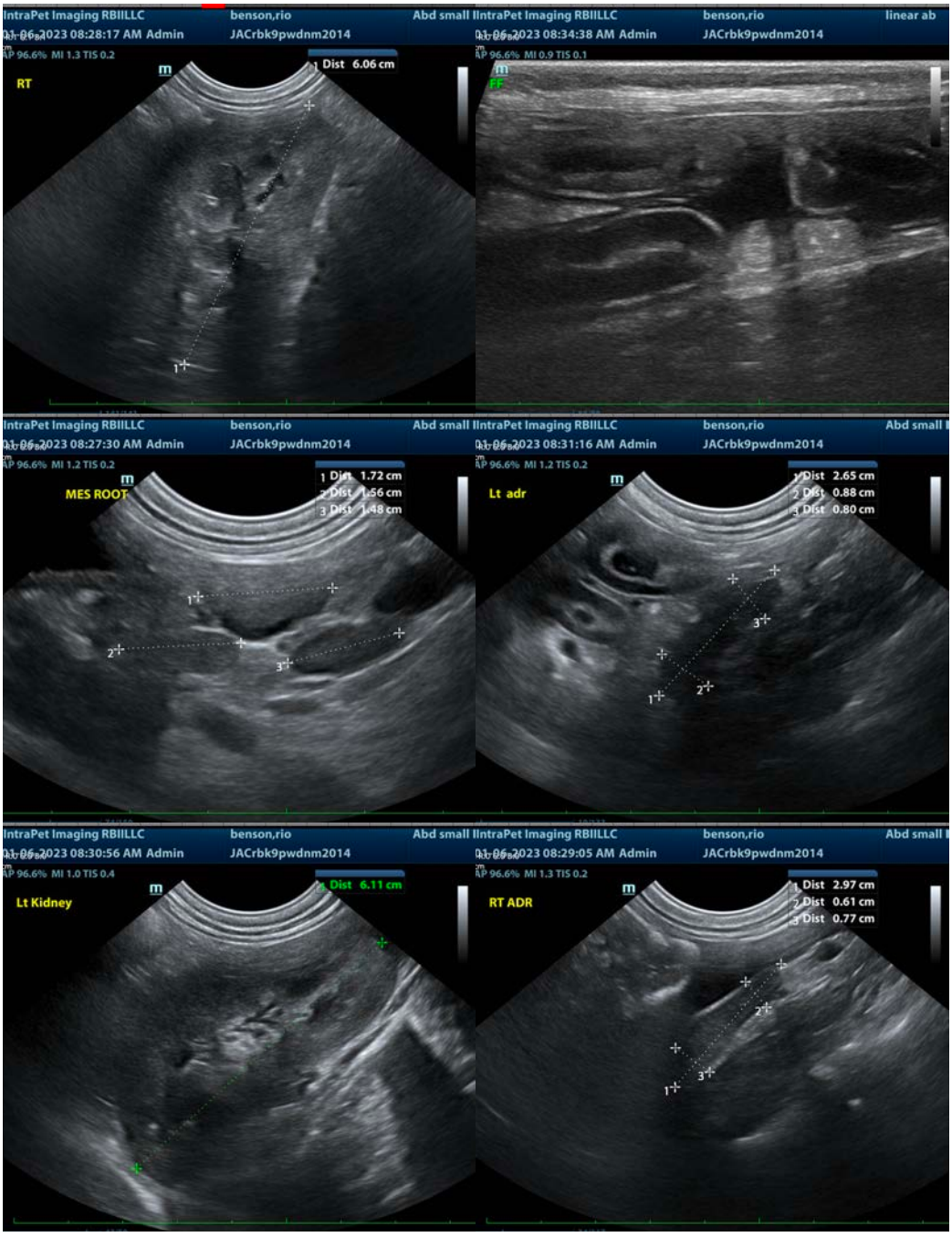
A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

Pending baseline cortisol results, 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.

Ideally, biopsies of the GI tract are recommended to definitively diagnose and therefore manage the infiltrative bowel process.

If biopsies cannot be obtained safely due to low albumin or patient stability, etc., empirical therapies could include diet change to an ultra-low fat diet, empirical deworming with a 5 day course of Panacur, cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) a probiotic and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.). Calcium monitoring, and supplementation if necessary, is also recommended.

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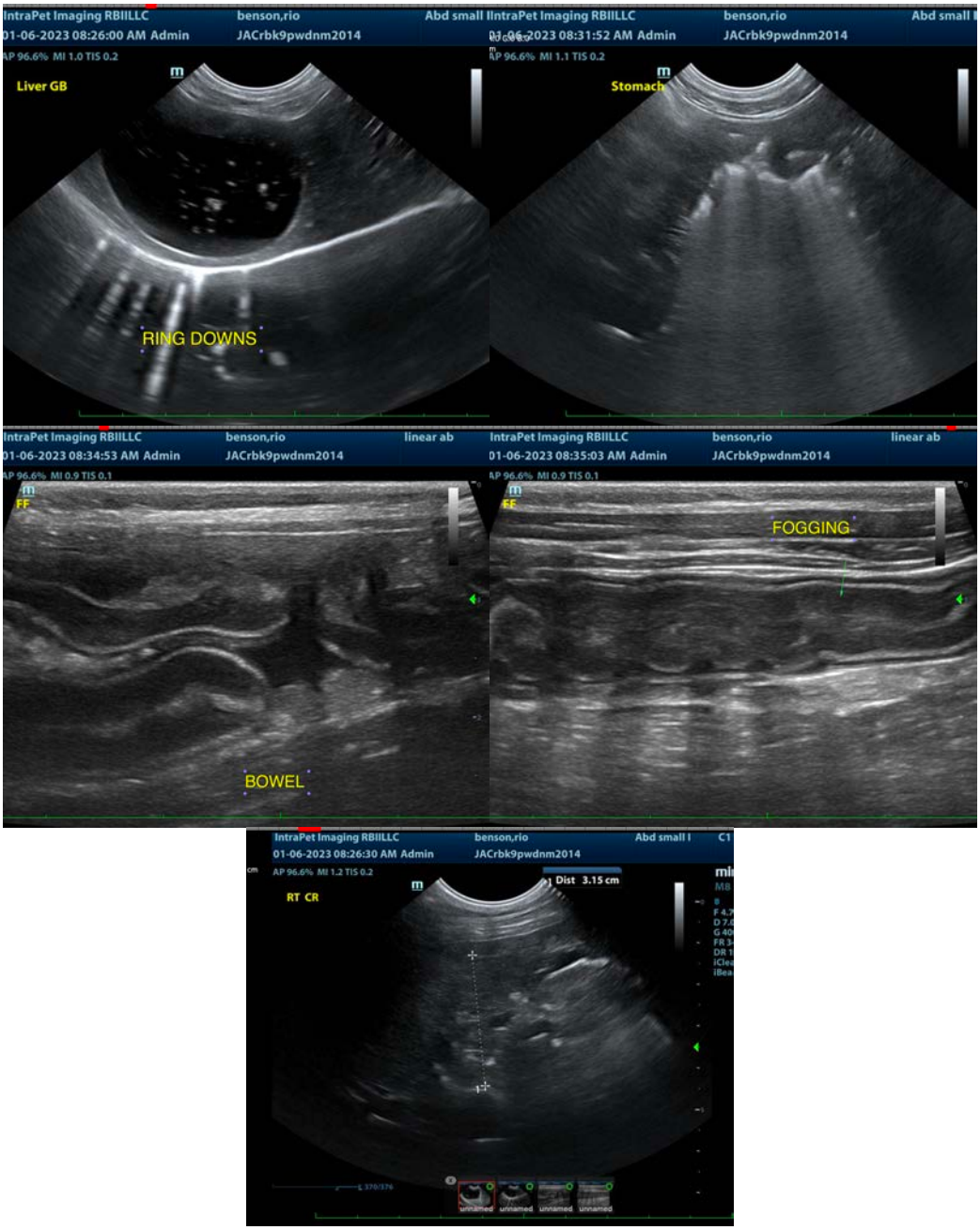


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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