

**DATE PRESENTING CLINICAL SIGNS**

10/27/22

Zip has a history of grade V/VI heart murmur with recent increased ProBNP levels. Patient was seen by cardiologist in December, 2021 and is due at this time. O would like to add on abdominal ultrasound to investigate recurrent bloody diarrhea.

**PATIENT**

Zip Camarillo

Current Medications: Metronidazole 100mg/mL Suspension (Give 0.6mL twice daily by mouth for 14 days. Complete entire course even if diarrhea resolves. Gut-targeted antibiotic. \*bitter tasting\* Give with a meal.) Started 10/3/22, will end 10/17/22. Monthly Trifexis for FT/HW prevention, Provable probiotic SID-BID started 10/18/22

**SPECIES**

Canine

Lab Results: incr neutrophils - concerned about infection leading to diarrhea w/ blood. Chemistry WNL other than low Cl - likely d/t GI losses from D, also LOW BG, but blood was not spun down so this is not accurate. O is not seeing any weakness/collapse episodes at home.

**BREED**

Chihuahua

ProBNP 1153 (0-900) - concern for progressive heart dz

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Gabapetin PO.

Stat Report: Not requested.

**SEX**

Neutered Male

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****AGE**

9/1/07

**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.

**WEIGHT**

9 Pounds

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

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM

The right kidney is normal in size (3.73 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 or infarcts observed. A cortical cyst is noted. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

**IMAGING PERFORMED BY**Stephanie Warga  
RDCS, RVT

The left kidney is normal in size (3.5 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 or infarcts observed. A cortical cyst is noted. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

**HOSPITAL NAME**Heart + Paw  
of Fells Point**Adrenal Glands**

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 1.36 cm long x 0.80 cm at the cranial pole and 0.41 cm at the caudal pole. A hyperechoic nodule is noted in the cranial pole of the right adrenal gland. Nodule does not disrupt normal shape and/or architecture.

**REFERRING VET**

Dr. Kraselski

**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.

**INVOICE**

42441

### **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 moderately distended with anechoic bile as well as 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 visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is 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). 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 pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### **Free Abdomen**

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

There is no apparent lymphadenopathy noted in these images.

## **PRIMARY FINDINGS**

- **Bilateral adrenomegaly** – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- **Hyperechoic adrenal nodule in the cranial pole of the right adrenal gland** – Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.

## **SECONDARY FINDINGS**

- **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.

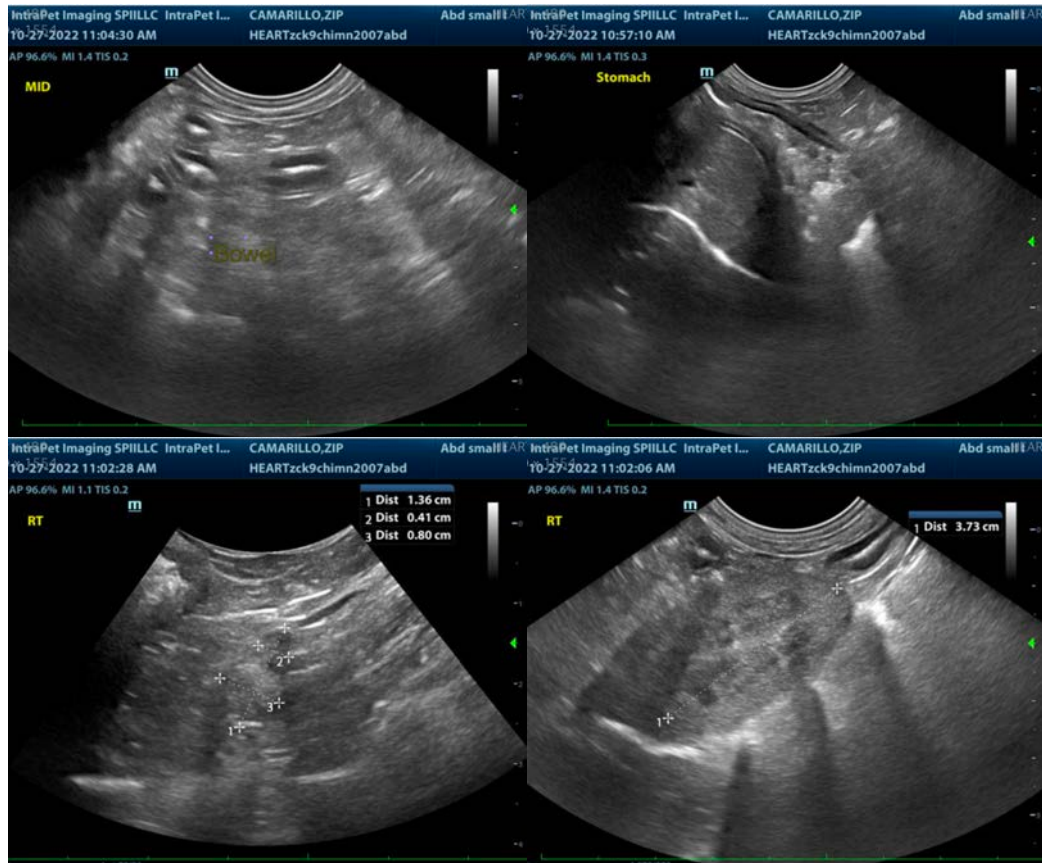
- Non-obstructive dystrophic mineralization bilaterally in the kidneys

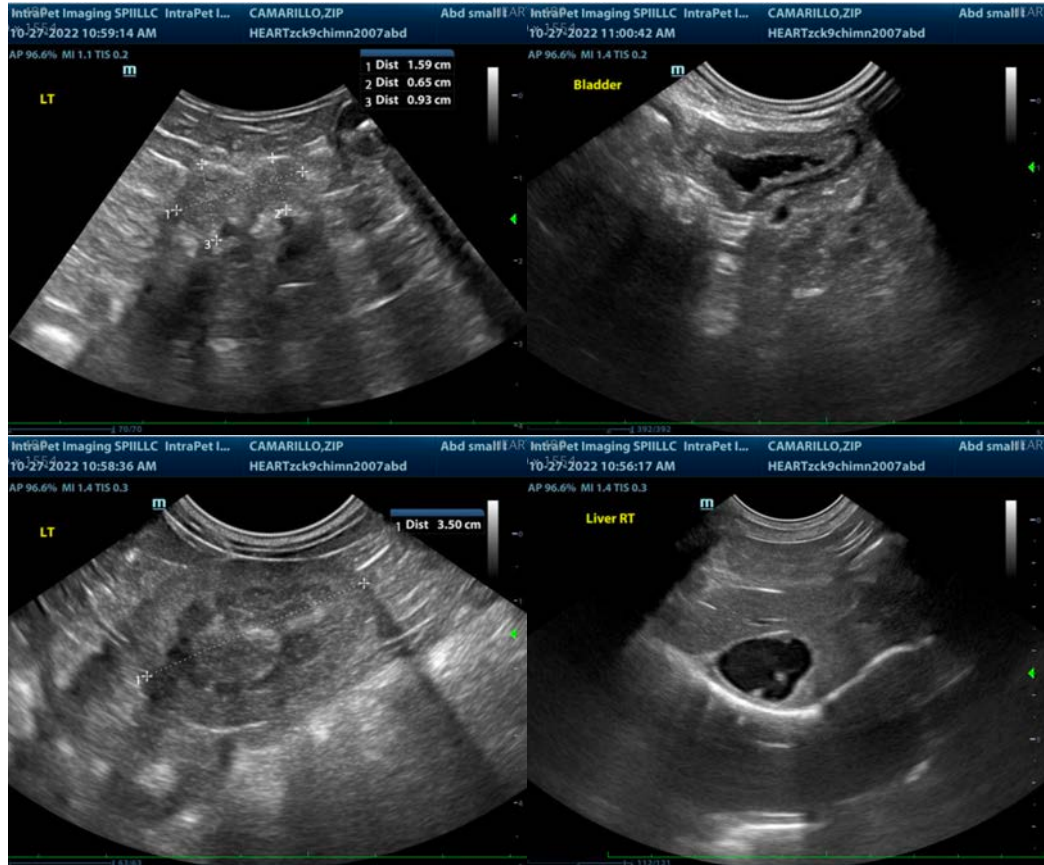
### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no ultrasonographically visible cause for this patient's recurrent hematochezia in these images. However, normal ultrasound does not rule out gastrointestinal disease. Given the report of frank blood, recommendations are a fecal exam (if not recently evaluated) as well as a fecal enteropathogen PCR panel to Texas A&M GI Laboratory for further evaluation of possible infectious disease.

Ultimately, if a diagnosis is not made and clinical signs persist, colonoscopy may be necessary to definitively diagnose and therefore manage the cause of this patient's hematochezia. However, in the meantime, empirical therapeutic recommendations include empirical deworming with a 5-day course of Panacur, a probiotic such as Visbiome or Provable, and a diet transition based on trial-and-error response, beginning with a fiber response colitis diet, and if not improvement, potentially a hydrolyzed protein diet, etc.

Given this patient's adrenal gland changes, if clinical signs of hyperadrenocorticism are present in the form of PU/PD, polyphagia, etc., testing for hyperadrenocorticism could be considered in the form of a low-dose Dexamethasone suppression test. However, testing is not recommended in the face of concurrent illness due to the risk of false positives and is not recommended without supportive clinical signs. Therefore, this patient's diarrhea and cardiac disease should be evaluated and managed first.





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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