

**DATE PRESENTING CLINICAL SIGNS**

7/5/22

Presented for Diarrhea- rads revealed: Le adrenal neoplasia - adenoma vs carcinoma. Hepatosplenomegaly - Consider infiltrative disease such as LSA, however vacuolar degeneration due to Cushing's is 1st differential for the hepatopathy. fluid in GI tract suggests polydipsia. Splenomegaly may be incidental or due to comorbidity. Thelia suggest late spay after whelping vs endocrine disorder.

**PATIENT**

Cricket Heid

**SPECIES**

Canine

Current Medications: None listed.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**BREED**

Yorkie X

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Spayed Female

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

**AGE**

5/11/10

The left kidney has a normal shape and size (4.07 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**WEIGHT**

11 Pounds

The right kidney has a normal shape and size (4.59 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**Adrenal Glands**

The left adrenal gland is normal/borderline plump in size measuring 0.62 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**IMAGING PERFORMED BY**

Rachel Brilhart RDMS

The right adrenal gland is normal/"plump" in size measuring 0.72 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**HOSPITAL NAME**

Homeward Bound VS

**Spleen**

The spleen is normal/borderline large in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. The echogenicity of the spleen is normal and there are no focal lesions. The spleen is folded upon itself, which is largely responsible for the enlargement noted on radiographs. This could be normal for this individual, or be a mildly enlarged spleen.

**REFERRING VET**

Dr. Vance

**Liver**

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

**INVOICE**

39192

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measured 0.26 cm. Mucosal speckling is seen in some areas of the small intestine. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

### ***Pancreas***

The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

### ***Free Abdomen***

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

## **PRIMARY FINDINGS**

- Large, heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Subjectively thickened small intestine with mucosal speckling – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

## **SECONDARY FINDINGS**

- Normal/borderline plump adrenal glands – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.
- Borderline large spleen – This could be a normal anatomic variant or represent congestion, infiltrative disease, etc.
- Prominent, mottled pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

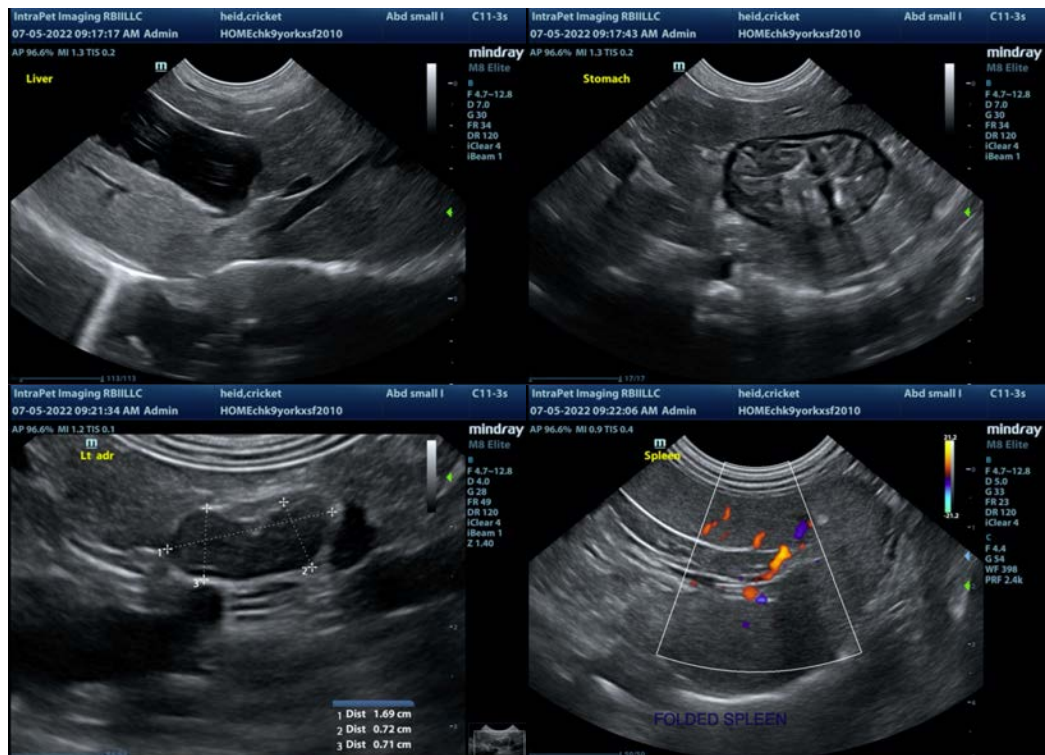
The changes observed in the liver and spleen are relatively mild and subjective. Correlate with blood work

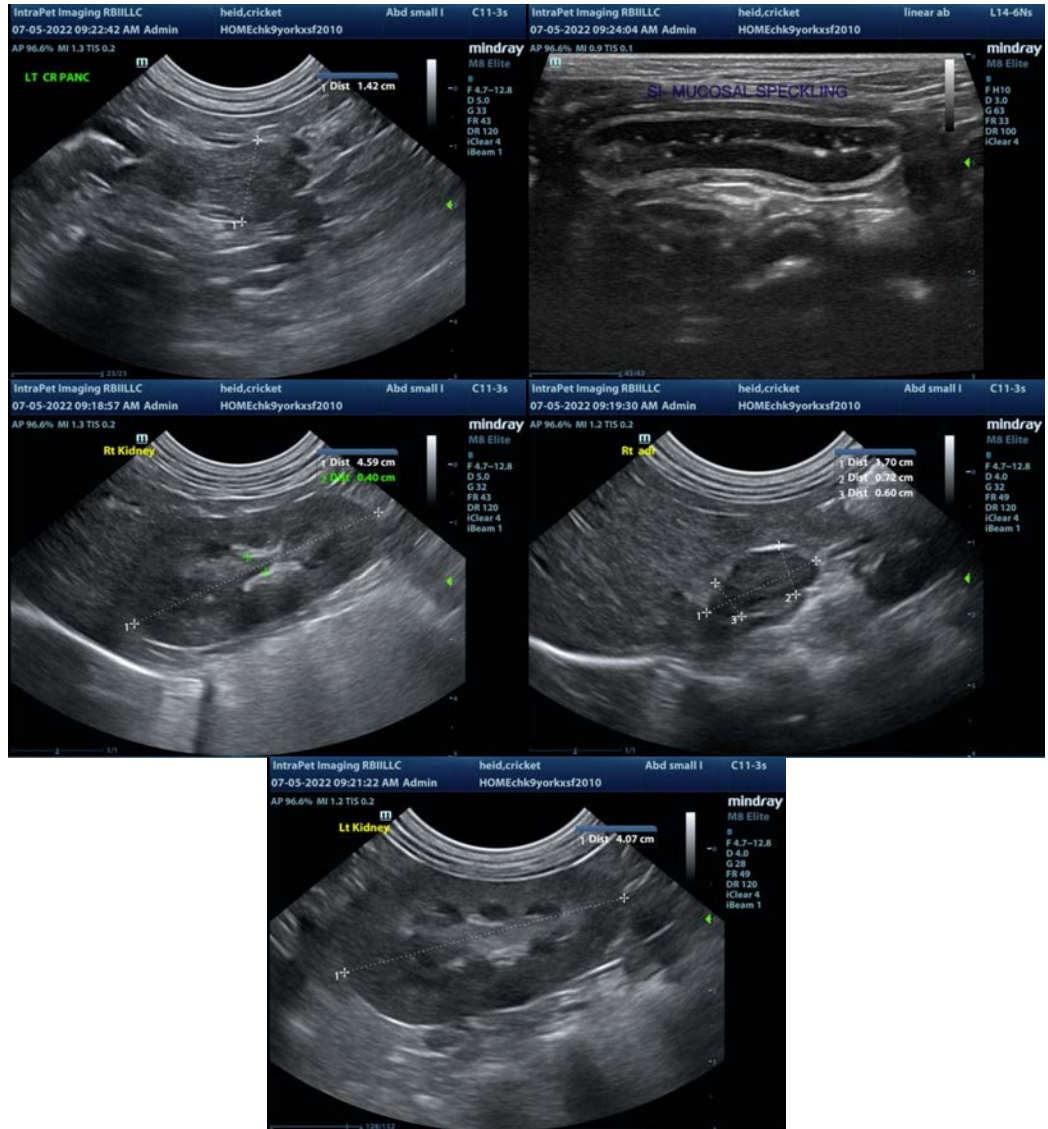
findings. If liver enzymes are elevated and signs of Cushing's are present, this could represent early Cushing's disease, primary hepatopathy, etc. You could consider a fine needle aspirate of the liver and a liver function test. If liver enzyme elevations are not present, the significance of this is unclear.

There is some subjective thickening of the small intestine and mucosal speckling noted. This can be seen with underlying intestinal disease. Consider further evaluation for the diarrhea including:

- Recommend novel protein/hydrolyzed protein prescription diet.
- Recommend a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further reevaluate for pancreatic and small intestinal disease.
- Recommend chronic probiotic therapy.
- If symptoms persist, recommend obtaining endoscopic GI biopsies, as this breed has an increased incidence of protein losing enteropathy, IBD, etc.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.





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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