

**DATE PRESENTING CLINICAL SIGNS**

1/6/23

Anorexia/hyporexia, vomiting 1 week. Vomited twice last week (grass) and once this week (Thursday- treats). Would not eat dog food but he was eating table food initially, now he's not eating table food well. Came home with an animal bone 2 days ago. Weight loss of 13 lbs since 8/5/22 (59lbs) now 46 lbs. Had been 78 lbs 7/2020. History of ivdd, surgery 2020 T13-L1, L2-4 hemilaminectomy, with second surgery revision. Hypothyroidism dx 2020 prescribed thyroxine 0.7 mg bid. BAR, BCS 4/9, generalized decreased muscle mass, abdomen compliant  
T 102.1, hr 140

**PATIENT**

Harley Becker

**SPECIES**

Canine

**BREED**

Labrador

**SEX**

Neutered Male

**AGE**

11/21/12

**WEIGHT**

46 Pounds

**INTERPRETED BY**

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

**HOSPITAL NAME**

Jacksonville VH

**REFERRING VET**

Dr. Burk

**INVOICE**

43974

Current Medications: Thyroxine 0.7 mg bid since 2020. 8/5/2022 T4 was 6. \*Decreased Thyroxine to 3.5 mg bid on 01/05/2023  
Gabapentin 200 mg bid since back surgery in 2020, Cerenia 21 mg sq 01/05/2023, Amoxicillin 400mg bid started 01/05/2023  
Lab Results: HCT 28.7% retics 1.4% 59.1k, WBC 4.47, neuts 2.75, bands suspected, Platelets 20K, pct 0.03, glu 145, bun 6, TProtein 4.9, albumin 2.2, glob 2.7, ALT 302, ALP 1993, GGT 13, cPL normal  
Radiographs: gas and ingesta in stomach, gas in colon, decreased detail, mass effect mid abdomen  
Date of Previous IntraPet Ultrasound: No previous.  
Sedation: Not required to complete full diagnostic ultrasound.  
Stat Report: STAT requested.  
Imaging Performed By: Rachel Brillhart, RDMS.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****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.

Pancreas is prominent in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

The left kidney has a normal shape and size (6.35 cm) with mild pyelectasia at 0.25 cm. Overall echogenicity is slightly hyperechoic with mildly reduced corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.27 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.81 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.

The right adrenal gland is normal in size measuring 0.76 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.

### ***Spleen***

The spleen is subjectively large in size. The echotexture is significantly mottled and heterogeneous, particularly towards the tail of the spleen. The splenic capsule is irregularity with scalloping and bulging. There is significant blood flow at the level of the hilus, but there is a large, thrombosed vessel (likely splenic vein) with fair apparent collateral circulation. The distal portion of the spleen appears less vascular. There is a mixed echogenic mass effect/nodule with a hypoechoic center visualized measuring 1.48 cm x 1.55 cm. Additionally, there are isoechoic “bulges” that are concerning for more subtle mass lesions.

### ***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.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and 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 relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 normal and isoechoic to surrounding 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. There are abnormal lymph nodes visualized in the sublumbal region, a hypoechoic irregular lymph node is visualized measuring 0.85 cm in diameter. Additionally, there is a more ovoid hypoechoic structure in the sublumbal region measuring 1.223 cm x 3.25 cm, suggestive of an abnormal lymph node. The omentum is generally of normal echogenicity.

## **PRIMARY FINDINGS**

- Large, irregular, mottled spleen with focal masses/nodules and splenic vein thrombosis – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis. Despite the thrombosis, blood flow to the spleen appears fair.
- 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.

- Large, irregular, hypoechoic lymph nodes in the sublumbar region – The irregular nature of these lymph nodes is concerning for a neoplastic process, although inflammation and infection are also possible differentials.

## SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with left-sided mild pyelectasia – The bilateral renal findings are consistent with age-related change. Pyelectasia of the kidney(s) could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The spleen is large and mottled with irregular contours, a distinct nodule, and splenic vein thrombosis. Ideally, it would be surgically removed, but this could be risky with the current medical status of this patient (low platelets, etc.). There is no evidence of free abdominal fluid or an active bleed, which raises concern for where the hypoalbuminemia is coming from.

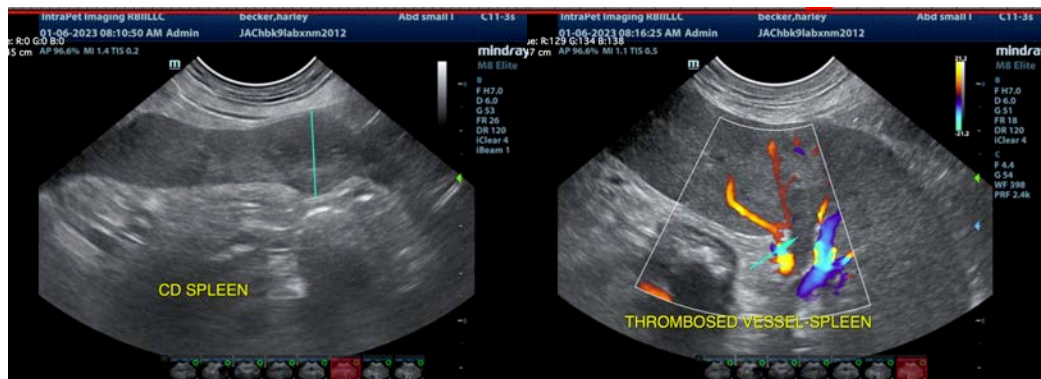
Recommend a pathologist review of the blood smear and at least an in-house platelet blood smear to confirm the platelet count. Additionally, recommend a coagulation panel and 3-view thoracic radiographs.

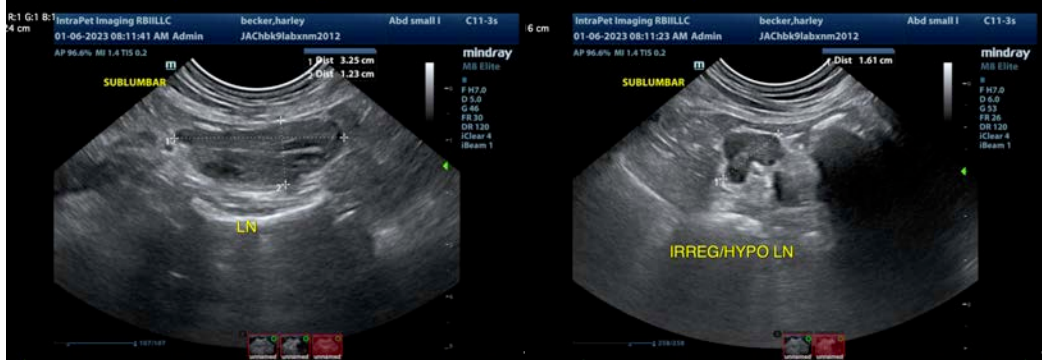
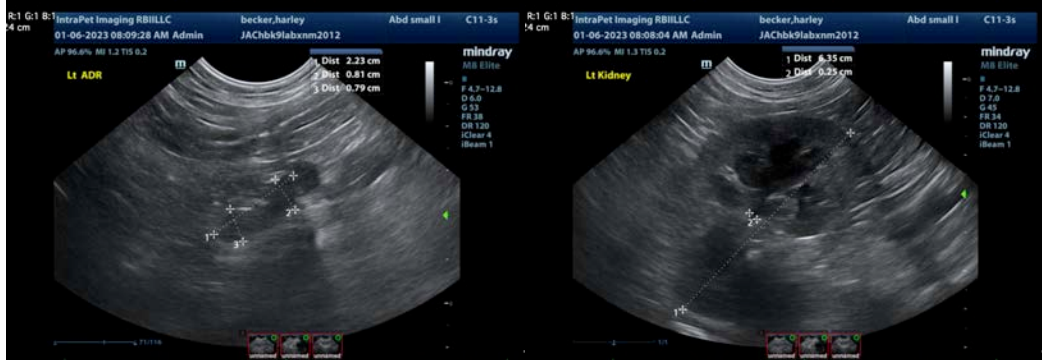
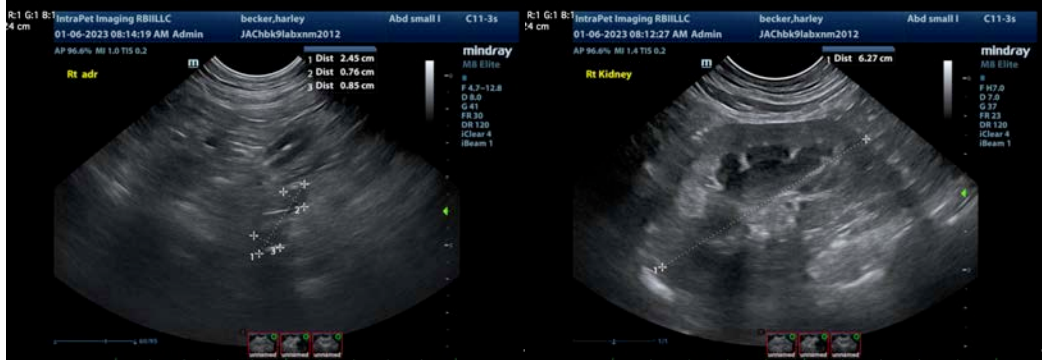
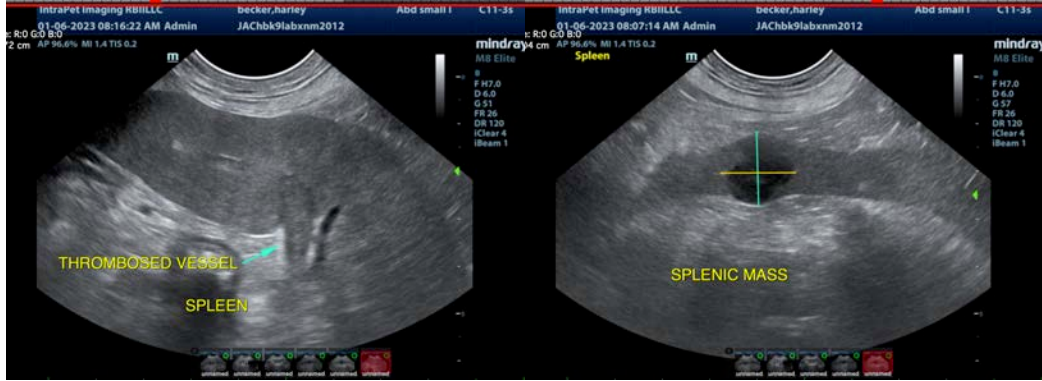
I'm concerned that neoplasia may be the most likely differential for a hypercoagulable state but consider looking for proteinuria. Additionally, the high ALP could be consistent with underlying Cushing's disease, etc.

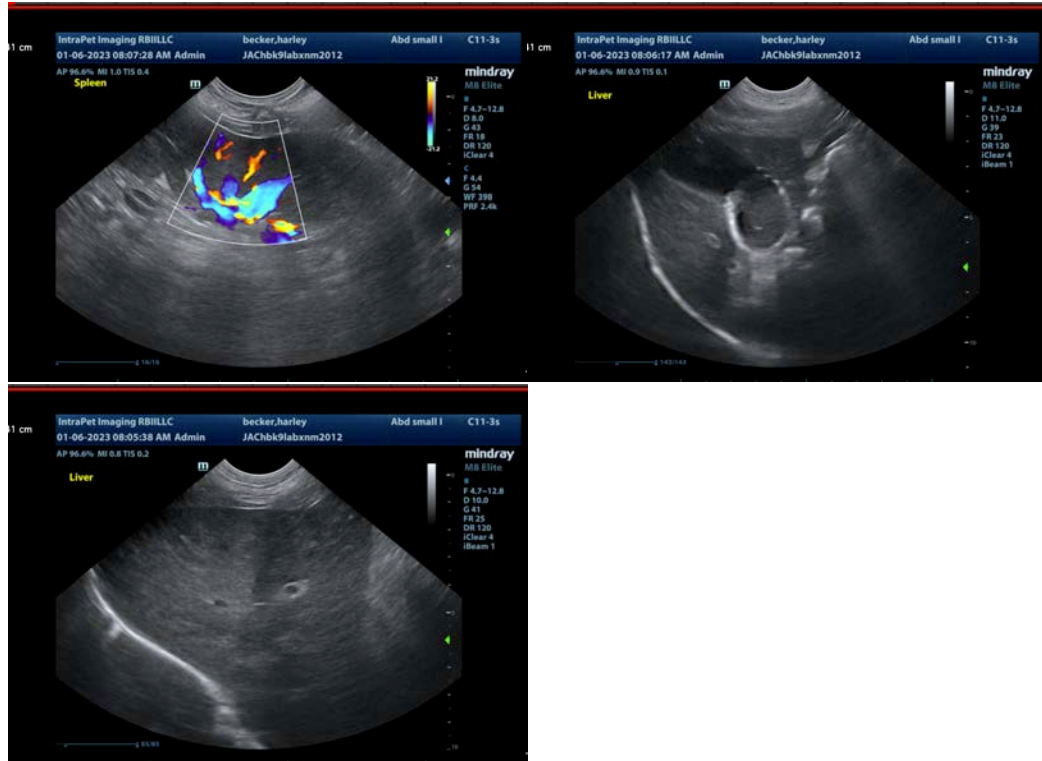
Additionally, a liver function test would be helpful, to look for another cause of possible hypoalbuminemia.

I would likely consider a fine needle aspirate of the spleen despite the low platelet count (discuss with owner) to look for underlying neoplasia, +/- sublumbar lymph nodes (if reachable).

If the patient can be stabilized and you feel it is safe to do so, I would consider referral to a surgeon with the capability of intensive care for splenectomy and biopsies of the lymph nodes +/- liver, GI, etc.







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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