

**PATIENT**

Bella Edwards

**SPECIES**

Canine

**BREED**

Italian Greyhound

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

14.4 Pounds

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Craig

**INVOICE**

46798

**DATE**

4/19/23

**PRESENTING CLINICAL SIGNS**

Presented for vomiting for 2-3 weeks, 1-2 times nightly, clear liquid.

Abnormal PE/Chem/CBC/UA Results: exam, abd rads, cbc, chems, T4, 4DX, UA liver values increased

**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.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measures 4.43 cm. The right kidney measures 5.11 cm. Cortical cysts (approximately 0.60-0.70 cm in size) are noted bilaterally.

**Adrenal Glands**

The right adrenal gland is normal in size (1.4 cm at the cranial pole and 0.60 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 (0.46 cm at the cranial pole and 0.47 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). A 0.40 cm x 0.60 cm hypo- to anechoic non-capsule disrupting nodule is present. Splenic vasculature appears normal.

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended 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 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.

Small intestine is diffusely mildly thick with a relatively thick mucosa compared to other layers. Normal wall layering is preserved; however, the mucosa is more echogenic than normal and contains

## IMAGING PERFORMED BY

SVS Mobile Imaging MI 734-637-7711  
svsimagingmi@gmail.com



### PATIENT

Bella Edwards

### SPECIES

Canine

### BREED

Italian Greyhound

### SEX

Spayed Female

### AGE

13 Years

### WEIGHT

14.4 Pounds

### INTERPRETED BY

Beth Johnson, DVM  
DACVIM

### IMAGING PERFORMED BY

Amy Mayhew, LVT

### HOSPITAL NAME

SVS Imaging MI

### REFERRING VET

Dr. Craig

### INVOICE

46798

### DATE

4/19/23

hyperechoic striations perpendicular to the lumen. The lumen is empty with no evidence of obstruction or foreign material.

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**

A scant amount of anechoic free fluid is noted.

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.

### **PRIMARY FINDINGS**

- **Lymphangiectasia** – Small bowel findings are most consistent with lacteal dilation. These findings can be observed with protein-losing enteropathies caused by either primary lymphangiectasia or primary infiltrative inflammatory disease with secondary lymphangiectasia. Infiltrative neoplasia is possible but considered less likely. Histopathology is necessary to definitively determine underlying cause.
- **Scant amount of anechoic free fluid** – concerning for possible hypoalbuminemia related to possible protein losing enteropathy.
- **Reactive mesenteric lymph nodes** – infiltrative neoplastic disease cannot be ruled out but is considered less likely.
- **Heterogenous Liver** – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

### **SECONDARY FINDINGS**

- Age related kidney changes with bilateral cortical cysts
- **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.

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

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.

**IMAGING PERFORMED BY**

SVS Mobile Imaging MI 734-637-7711  
svsimagingmi@gmail.com



**PATIENT**

Bella Edwards

**SPECIES**

Canine

**BREED**

Italian Greyhound

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

14.4 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Craig

**INVOICE**

46798

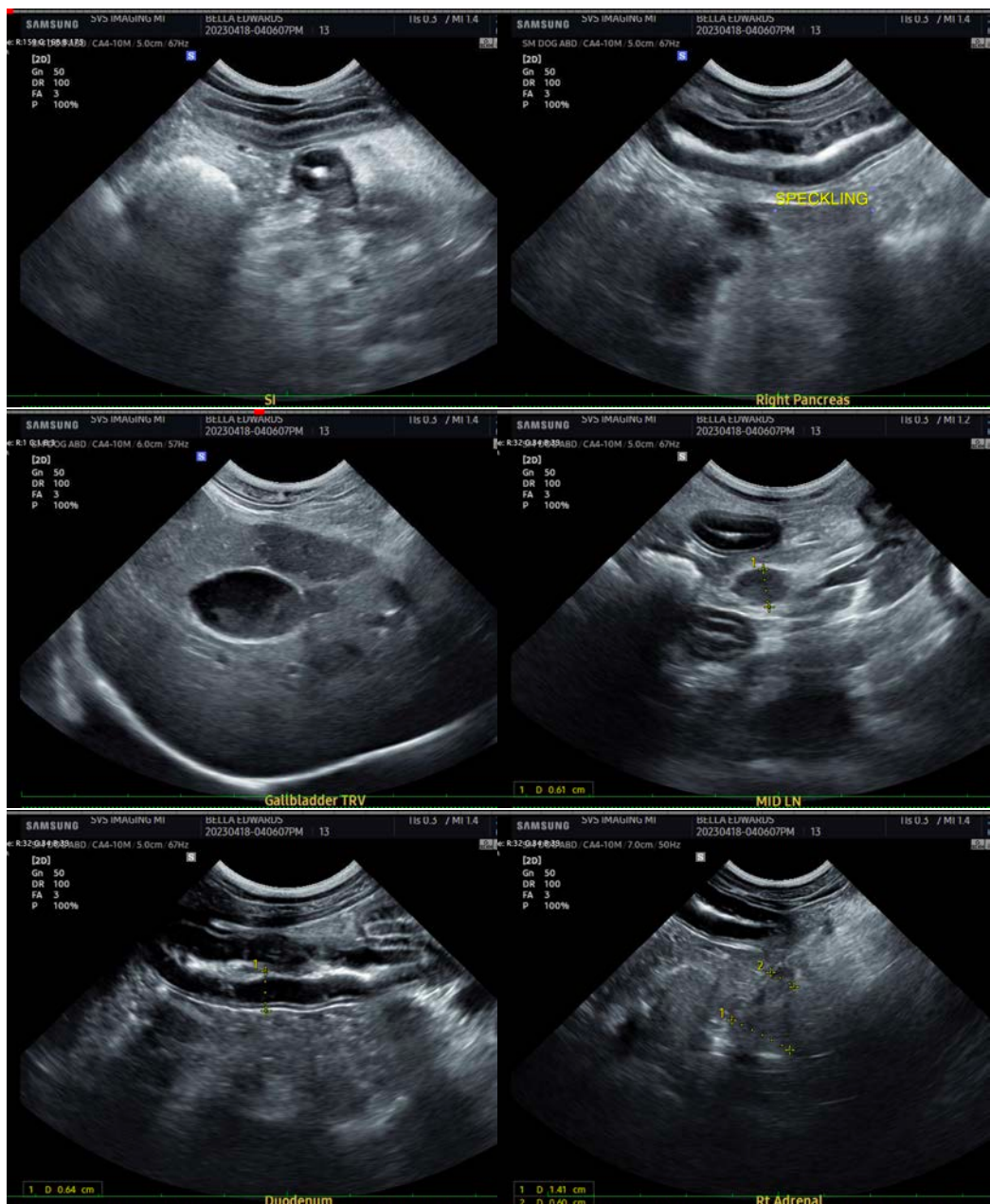
**DATE**

4/19/23

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.

Additionally, a fine needle aspirate of the liver should be considered if patient's coagulation status is appropriate.



**IMAGING PERFORMED BY**

SVS Mobile Imaging MI 734-637-7711  
svsimagingmi@gmail.com



**PATIENT**

Bella Edwards

**SPECIES**

Canine

**BREED**

Italian Greyhound

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

14.4 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

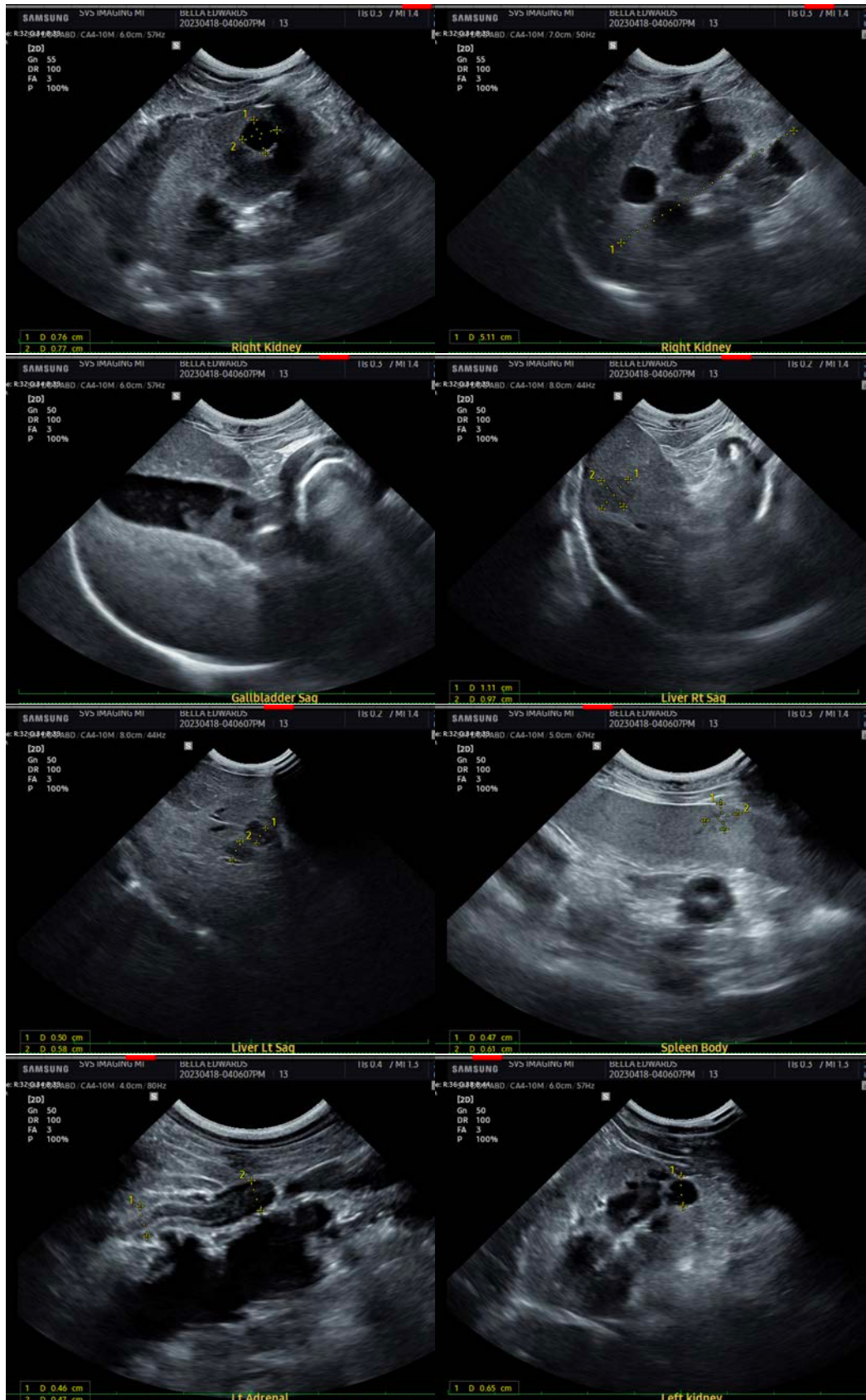
Dr. Craig

**INVOICE**

46798

**DATE**

4/19/23



**IMAGING PERFORMED BY**

SVS Mobile Imaging MI 734-637-7711  
svsimagingmi@gmail.com



EDUCATIONAL TELECONSULTATION SERVICES™  
1-800-838-4268 info@sonopath.com SonoPath.com

**PATIENT**

Bella Edwards

**SPECIES**

Canine

**BREED**

Italian Greyhound

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

14.4 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Craig

**INVOICE**

46798

**DATE**

4/19/23



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