

Leah Catalina Cruz

## PRESENTING CLINICAL SIGNS

### SPECIES

Canine

### BREED

Yorkshire Terrier

### SEX

Female, intact

### AGE

5 Yrs.

### WEIGHT

10.5 lbs.

### INTERPRETED BY

Andrea Nicastro, DVM,  
Diplomate ACVIM  
(*Small Animal Internal  
Medicine*)

### IMAGING PERFORMED BY

Dr. Ferrer

### HOSPITAL NAME

Pulse: Pet Ultrasound  
Services

### REFERRING VET

Dr. Fonseca

### INVOICE

15204

### DATE

8/22/23

**History:** Leah Catalina is a 5 yr old intact female Yorkshire Terrier that presented to Emergency Clinic last night for evaluation for 2 week Hx of on/off vomits and diarrhea. Vomits were described as clear liquid and sometimes yellow colored without content. They happens at least 1 per day. Diarrhea were described as liquid black colored, but they started recently and doesn't happen everyday. Indoor pet with other dog who is doing fine. Regular diet consist of dry kibbles of salmon protein; last week he tried wet food of chicken protein; since have been reluctant to eat as usual. Normally she is a finicky eater. No PU/PU/PP. Last heat about 3 months ago. No UTD on Vx or preventives.

**Abnormal PE/Chem/CBC/UA Results:** PE: CV/Resp- WNL, LN- WNL, MM/CRT- PK/<2sec, Abd palp- soft/ non painful abdomen, mild distended upon palpation (like fluid filled) CBC- leukocytosis ( 27k) with neutrophilia ( 23k); mild thrombocytosis ( 623) CHEM- hypoproteinemia ( 3.9)with hypoalbuminemia( 1.4)and GLOB ( 2.5)on the normal low end; mild hypocalcemia (most likely related to bound to albumin; Corrected calcium- 8.17), Cholesterol ( 95) 4Dx- negative x 4 Thoracic/abdominal radiographs- unremarkable thorax; loss of abdominal detail specially on the ventral abdomen; no obvious FB or obstructive pattern. Fecal float- NOS Abdominal fast scan- there is moderate hypoechoic fluids inside abdominal cavity; no obvious sign of uterine involvement; no obvious masses; not a complete evaluation done Ascites sampling- transudate

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. Luminal contents are anechoic. No cystic calculi are observed. The region of the trigone is normal.

The left kidney is normal size (3.71 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The right kidney is normal size (3.98 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

### *Adrenal Glands*

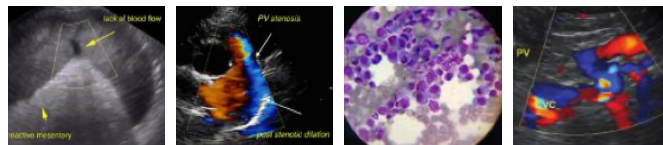
The left adrenal gland is normal size (0.33 cm at cranial pole) (0.44 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.35 cm at cranial pole) (0.40 cm at caudal pole) (1.73 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

### *Spleen*

The spleen is normal in size (0.92 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

### *Liver*



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The liver is subjectively normal in size with slight scalloping of the caudal margin. The parenchyma is hypoechoic relative to the spleen and homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is mildly to moderately distended. The wall is thickened (up to 0.16 cm) with a “double-walled” effect. A small amount of echogenic debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**Gastrointestinal**

The gastric lumen is not distended. The gastric wall is normal to borderline thickened (up to 0.37 cm) with retention of the normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall is normal to mildly thickened (up to 0.45 cm) with retention of the normal layering pattern. There is evidence of mucosal speckling and fogging in most segments. Discreet masses are not identified. The ileoceocolic junction and colonic wall are normal. No obstructive disease is noted.

**Pancreas**

The pancreas is diffusely prominent to enlarged with irregular peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat and heterogeneous in appearance. The pancreatic duct is not overtly dilated. Surrounding mesentery is hyperechoic.

**Free Abdomen**

A small amount of free fluid is present. Several prominent slightly rounded mildly hypoechoic mesenteric lymph nodes are visualized, the largest measuring 1.43 x 0.55 cm. Surrounding mesentery is hyperechoic.

**Other**

The uterine body is visible (0.54 cm in width) with no obvious evidence of dilation or other pathology.

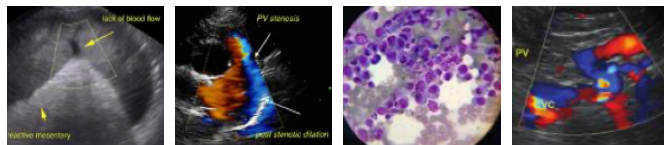
**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- The patient’s clinical history, in conjunction with the sonographic bowel changes, is most consistent with a protein losing enteropathy. Top differentials include inflammatory bowel disease, emerging lymphoma, infectious/parasitic disease and lymphangiectasia.
- The pancreatic changes are consistent with mild to moderate pancreatitis.
- Diffuse peritonitis is present, likely secondary to bowel and/or pancreatic pathology.

**Secondary Findings:**

- The gallbladder wall changes may be secondary to hypoalbuminemia, increased hydrostatic pressure, cholecystitis, immune mediated hemolytic anemia (unlikely), anaphylaxis (less likely), other.



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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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- Given the bowel changes, consider the following:
  - Despite the negative fecal evaluation, consider empirical deworming with Fenbendazole.
  - Texas GI panel including serum cobalamin, folate, TLI, PLI and a resting cortisol level is also recommended.
  - A low fat, hypoallergenic or hydrolyzed protein diet trial should also be initiated.
  - Ultimately, GI biopsies (i.e., endoscopic or surgical) may be warranted. Surgical biopsies are more likely to yield a definitive diagnosis. However, there is an increased risk of bowel dehiscence with full thickness biopsies compared to endoscopic biopsies. If biopsies are pursued, three-view thoracic radiographs should be performed prior to anesthesia to assess cardiopulmonary status.
- To further assess for other causes of hypoalbuminemia, consider the following:
  - Pre and post prandial serum bile acids to evaluate hepatic function.
  - UPC (if proteinuria is present on the urine dipstick).

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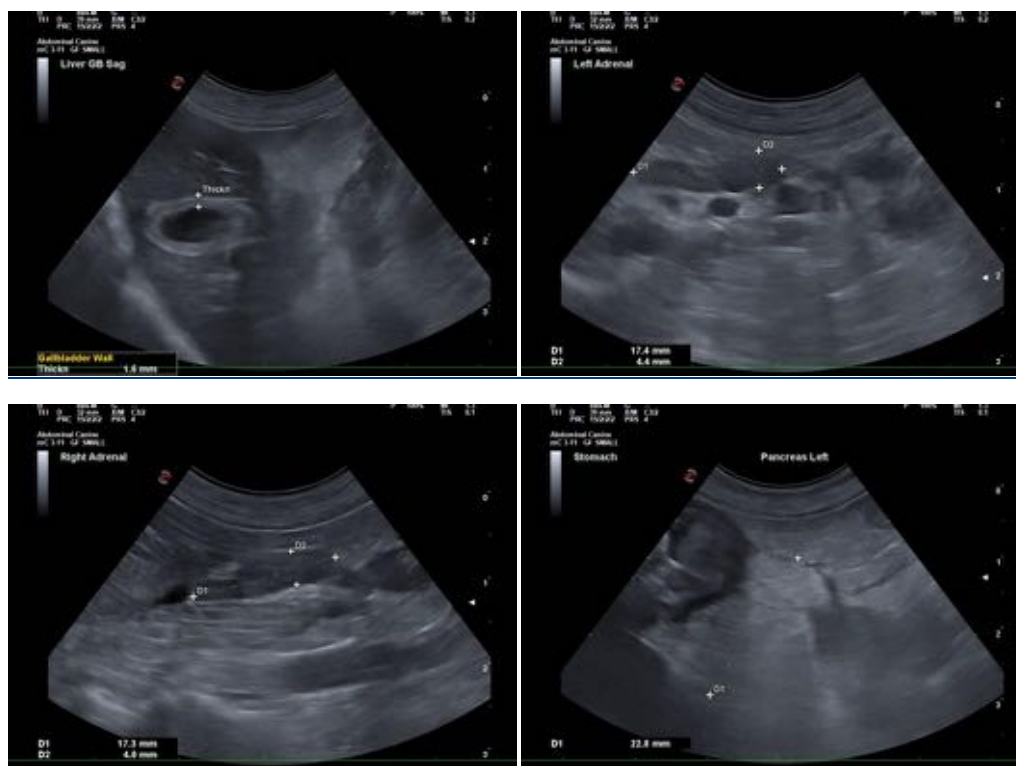
Dr. Fonseca

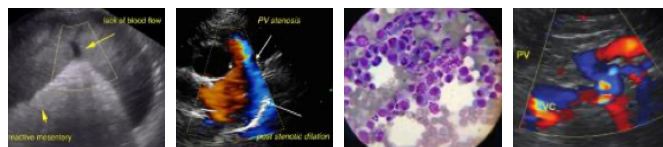
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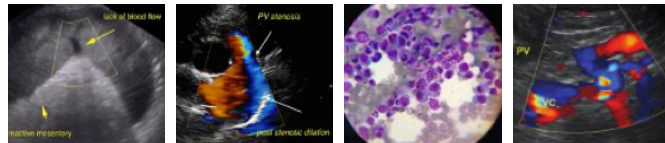
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)  
[info@SonoPath.com](mailto:info@SonoPath.com)



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