

**PATIENT**

Buddy Kelly

**SPECIES**

Canine

**BREED**

Husky mix

**SEX**

Male, neutered

**AGE**

1/21/2012

**WEIGHT**

73.40

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

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

**HOSPITAL NAME**

Brighton AH

**REFERRING VET**

**INVOICE**

14282

**DATE**

11/29

**PRESENTING CLINICAL SIGNS**

6-8 week history of chronic diarrhea not responsive to Metronidazole or diet changes.

Fecal negative for ova and Giardia. Chem panel shows panhypoproteinemia (albumin 1.1, globulins 2.0, low cholesterol).

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The prostate is normal in size (1.09 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal size (6.98 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 hydronephrosis. Renal vasculature is normal.

The right kidney is normal size (7.97 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 hydronephrosis. Renal vasculature is normal.

*Adrenal Glands*

The left adrenal gland is normal size (0.58 cm at cranial pole) (0.58 cm at caudal pole) (2.92 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.

The right adrenal gland is normal size (0.89 cm at cranial pole) (0.62 cm at caudal pole) with a normal shape and smooth peripheral contours. A 0.80 cm hyperechoic nodule is observed at the cranial to mid-aspect. The glandular echogenicity and detail at the caudal aspect are unremarkable. The phrenicoabdominal vein and surrounding vasculature are normal.

*Spleen*

The spleen is normal in size (1.68 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*

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The gall bladder lumen is moderately



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distended. The wall is thin and smooth. A moderate amount of aggregate echogenic, gravity-dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**Gastrointestinal**

The gastric lumen is mildly distended with ingesta. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is segmentally dilated with chyme. The small intestinal wall thickness is normal with retention of the normal layering pattern. There is evidence of mucosal speckling in some segments. Discreet masses are not identified. The colonic wall is normal. The lumen of the descending colon contains shadowing fecal material. No obvious obstructive disease is noted.

**Pancreas**

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

**Free Abdomen**

Trace free fluid is observed. The mesentery in the mid-abdominal region is mildly hyperechoic. The abdominal lymph nodes are normal/not visible.

**Other**

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- The patient's clinical history, in conjunction with the small intestinal wall changes, are most consistent with a protein losing enteropathy. Top differentials include inflammatory bowel disease, lymphangiectasia, infectious/parasitic disease, infiltrative neoplasia (i.e., lymphoma), other enteropathy. Neoplasia is considered less likely.
- The trace ascites and mild peritonitis are likely secondary to hypoalbuminemia and bowel pathology, respectively.

**Secondary Findings:**

- The right adrenal nodule trends toward the benign (i.e., nodular hyperplasia) with a lower possibility of an emerging tumor.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Further GI workup could include the following:
  1. GI panel including serum cobalamin, folate, TLI and PLI.
  2. Fecal PCR infectious disease panel.
  3. Prophylactic deworming with Fenbendazole.



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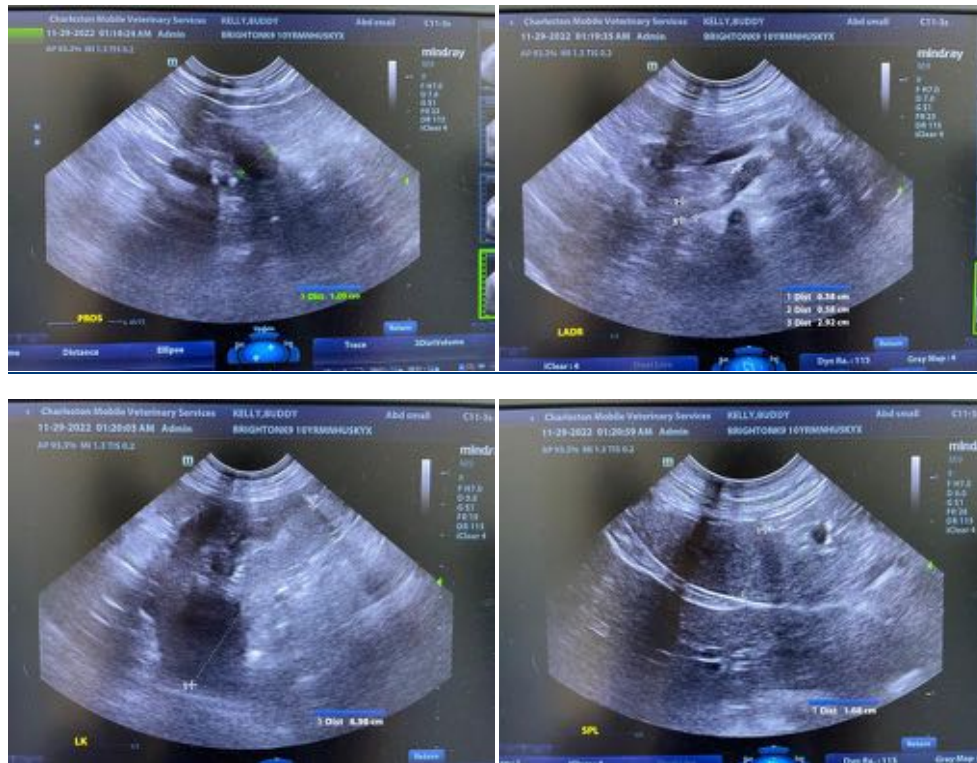
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4. 6 week hydrolyzed protein or limited antigen diet trial.
  5. Consider initiation of a probiotic and fiber supplement (i.e., Metamucil, Konsyl).
  6. Also consider empirical treatment for small intestinal bacterial overgrowth with a 4 week course of Tylosin (in lieu of Metronidazole).
  7. Ultimately, GI biopsies (endoscopic or surgical) would be necessary to get a definitive diagnosis. Given the patient's age, three-view thoracic radiographs should be performed prior to any anesthetic event.
- To assess for concurrent causes of hypoalbumemia, consider the following:
    1. Resting cortisol level to screen for hypoadrenocorticism.
    2. UPC (if proteinuria is present).
    3. Pre and post prandial serum bile acids to evaluate for occult hepatic dysfunction.





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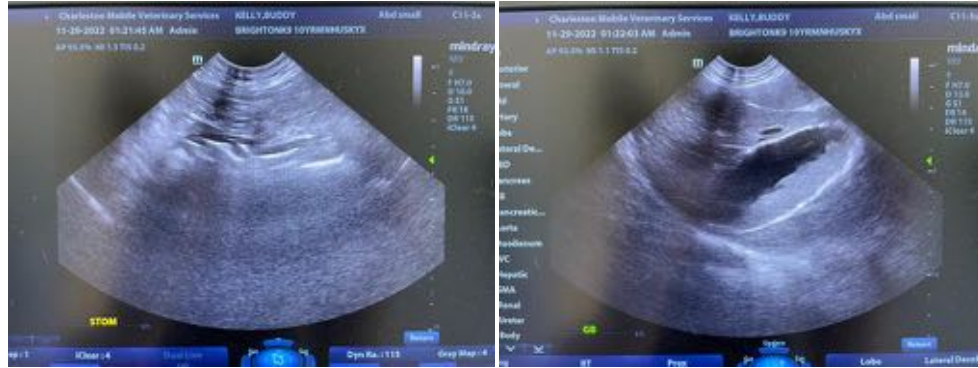
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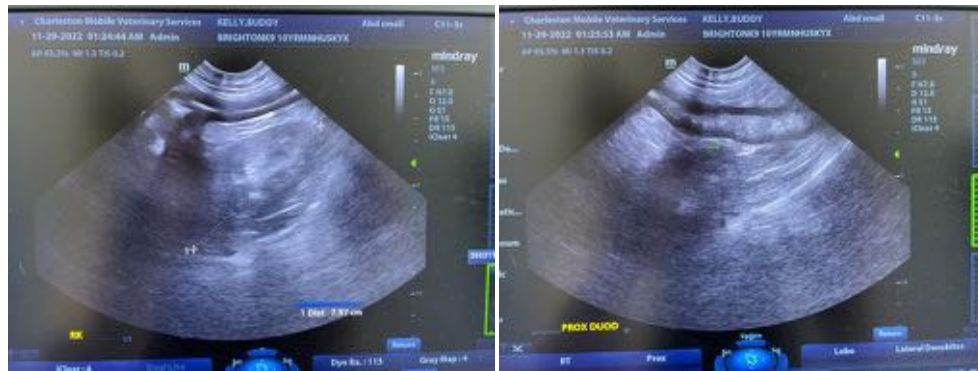
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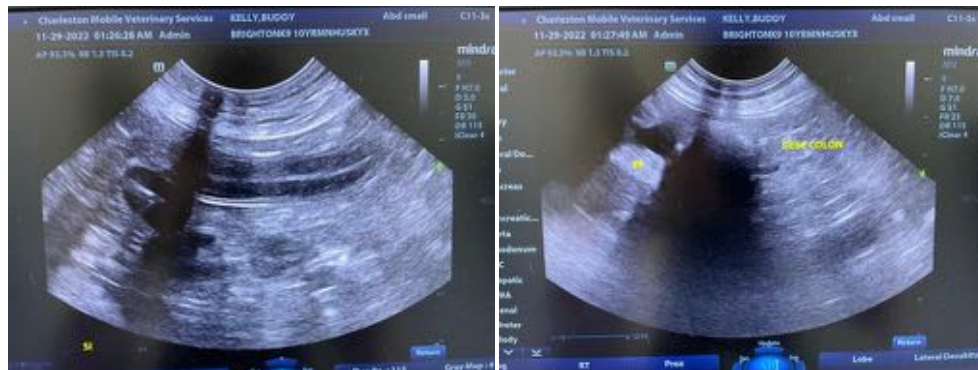


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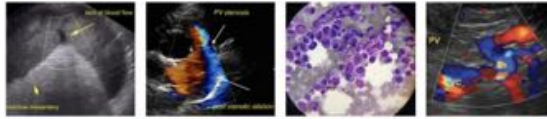
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible



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in the image/video clips provided.

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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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