



**PATIENT**

Bear Pulvers

**SPECIES**

Canine

**BREED**

Mini Australian Shepherd

**SEX**

Spayed Female

**AGE**

9 Years

**WEIGHT**

20 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Amanda Lacey-Crook –  
SDEP Certified  
Sonographer

**HOSPITAL NAME**

Rivers Edge PMC

**REFERRING VET**

Dr. David Gray

**INVOICE**

44580

**DATE**

1/26/23

**PRESENTING CLINICAL SIGNS**

Weight loss, diarrhea and vomiting since December - no response to GI supportive meds (cerenia, propectalin, metronidazole) Hospitalized today on KCI IVF, cerenia, Calcium gluconate bolus, pending plasma transfusion.

Abnormal PE/Chem/CBC/UA Results: Labwork 12/30/22 showed anemia on CBC; Chem CA 5.0, TP 3.5, Alb 1.5, Glob 2.0, Chol 91. (see attached full labwork) Labwork 1/26/23 - recheck CA 4.1, recheck full in house shows decreased Ca @ 3.8, Glob/Alb/TP stayed same as in Dec. (see attached full labwork) Radiographs from 12/30 showed loss of detail

**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.

The left kidney has a normal shape and size (4.41 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.

The right kidney has a normal shape and size (5.1 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 0.50 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 0.55 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 normal 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. No focal parenchymal abnormalities are visualized.

**Liver**

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

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.



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**Gastrointestinal**

The stomach contains moderate fluid/ingesta. 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 thickness is moderately increased. Duodenum wall measures 0.53 cm. Jejunum wall measures 0.47 cm. Significant mucosal fogging and speckling is evident. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. 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 nonformed 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, 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.

**Thorax**

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

**PRIMARY FINDINGS**

- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Moderate fluid/ingesta within the gastric lumen – Correlate with feeding history. If this patient was adequately fasted, this could indicate delayed gastric emptying or partial pyloric outflow tract obstruction (none observed).
- Diffuse thickening of the small intestine with significant mucosal fogging and speckling – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts. The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.
- Small volume free fluid – likely due to the hypoalbuminemia reported.

**SECONDARY FINDINGS**

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.



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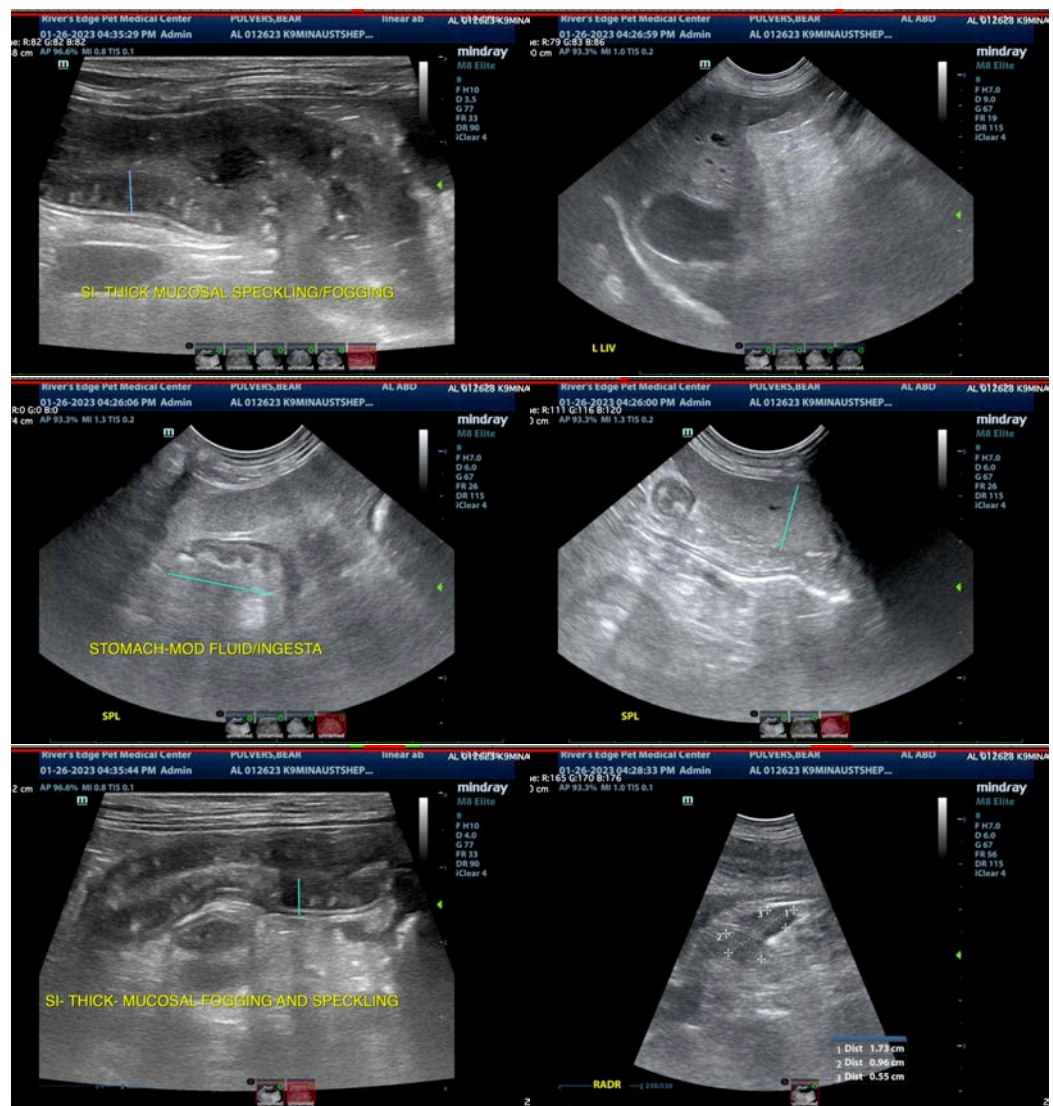
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Findings are consistent with a primary enteropathy (protein losing enteropathy). Most likely differentials would be severe IBD, lymphangiectasia, or neoplasia. Biopsies of the small bowel are necessary to differentiate these processes and ideally formulate an optimal treatment plan. Consider a liver function test and evaluation of a urinalysis/urine protein to creatinine ratio to confirm there is no contributing factors to eh hypoalbuminemia reported. Additionally, consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to try and determine if concurrent dysbiosis or cobalamin deficiency is present. Some dogs with this condition will benefit from steroid therapy, and in others it has the potential to make things worse depending on the underlying disease present.





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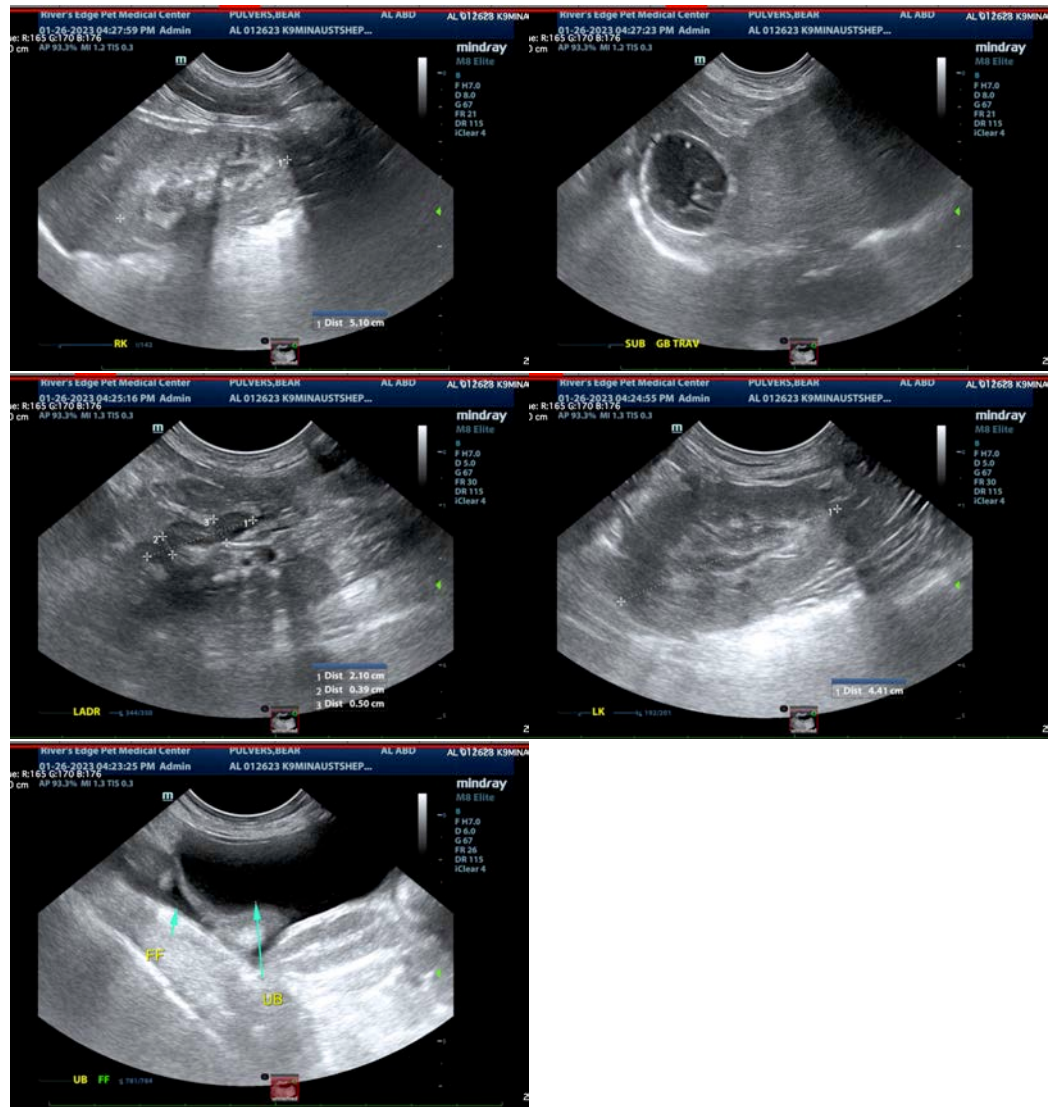
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com