



**PATIENT**

Scooby Weinstock

**SPECIES**

Canine

**BREED**

Miniature Pinscher

**SEX**

Neutered Male

**AGE**

13 Years

**WEIGHT**

15.7 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Kelly Vazquez

**HOSPITAL NAME**

Brend King Vet  
Services

**REFERRING VET**

Dr. Brenda King

**INVOICE**

43398

**DATE**

6/23/23

**PRESENTING CLINICAL SIGNS**

Patient presented for vomiting and diarrhea approx. 2 weeks ago and has been unresponsive to treatment of pancreatitis. Current meds: Gabapentin 200mgs 1/4 tab BID and Cerenia 16 mgs 1 tab SID.

**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 visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (4.56 cm). Overall echogenicity is normal with adequate 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 (4.97 cm). Overall echogenicity is normal with adequate 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 0.75 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 0.71 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 large and irregular. The spleen echotexture is heterogenous and severely mottled. The blood flow through the hilus and splenic parenchyma appears normal. There are numerous variably sized hypoechoic nodules visualized throughout the parenchyma, varying in size between approximately 0.30-0.60 cm.

**Liver**

The liver is large in size, and normal in echogenicity with rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous ill-defined hypoechoic nodules visualized throughout the hepatic parenchyma.

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.



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**Gastrointestinal**

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The stomach contains minimal luminal contents. The gastric wall is mildly thickened measuring 0.86 cm with intact wall layering. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. Findings are most consistent with diffuse gastritis.

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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. Duodenum wall measures 0.49 cm. Jejunum wall measures 0.38 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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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. The descending colon appears diffusely thickened and somewhat irregular with intact wall layering measuring at 0.64 cm, with a local lymphadenopathy.

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**Pancreas**

The pancreas is large, irregular, severely mottled/nodule and hypoechoic to surrounding mesentery. There is evidence of regional mesenteric inflammation. Consistent with severe pancreatitis.

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**Free Abdomen**

There is a large amount of echogenic free fluid. There are numerous hypoechoic lymph nodes/nodules in the mesentery measuring 1.2 cm and 0.96 cm. The mesentery is severely diffusely inflamed and nodular.

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**ULTRASONOGRAPHIC FINDINGS**

- Large, severely mottled spleen with diffuse hypoechoic nodules – Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large, irregular, severely heterogeneous/nodular pancreas with diffuse surrounding inflamed mesentery – The pancreatic changes are most consistent with severe pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving. Pancreatic neoplasia could be considered in this individual.
- Large, heterogeneous liver with ill-defined hypoechoic nodules – 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. The nodules observed trend toward a more benign process, but underlying neoplasia cannot be ruled out.
- Thickened gastric wall with intact wall layering – The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.
- Thickened descending colon with intact layering – Findings are most consistent with inflammation (colitis) or infiltrative disease.

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- Large volume echogenic free fluid with severe irregular hyperechoic mesentery – Findings are most consistent with peritonitis (sterile versus infectious). Carcinomatosis could be a differential.
- Moderate mesenteric lymphadenopathy – The moderate mesenteric lymphadenopathy could be concerning for a neoplastic process, although you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease (tick born disease-such as bartonella, fungal infections, FIP (cats)) etc. A fine needle aspirate with cytology is recommended for further evaluation.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is severe diffuse inflammation of the mesentery and abdominal structures. In many areas there is almost a nodular pattern. Both the liver and spleen are severely enlarged. The spleen is severely mottled with focal hypoechoic nodules. The liver is heterogeneous with more subtle, ill-defined hypoechoic nodules. Recommend a fine needle aspirate of the spleen +/- the liver. The pancreas is hypoechoic, irregular and severely mottled, almost nodular in some areas. This could be consistent with severe inflammation, but pancreatic neoplasia would need to be considered. A fine needle aspirate of the pancreas could be considered if splenic aspirates are not diagnostic.

Additionally, consider sampling of the abdominal effusion for cytologic evaluation, as carcinomatosis is a concern.

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Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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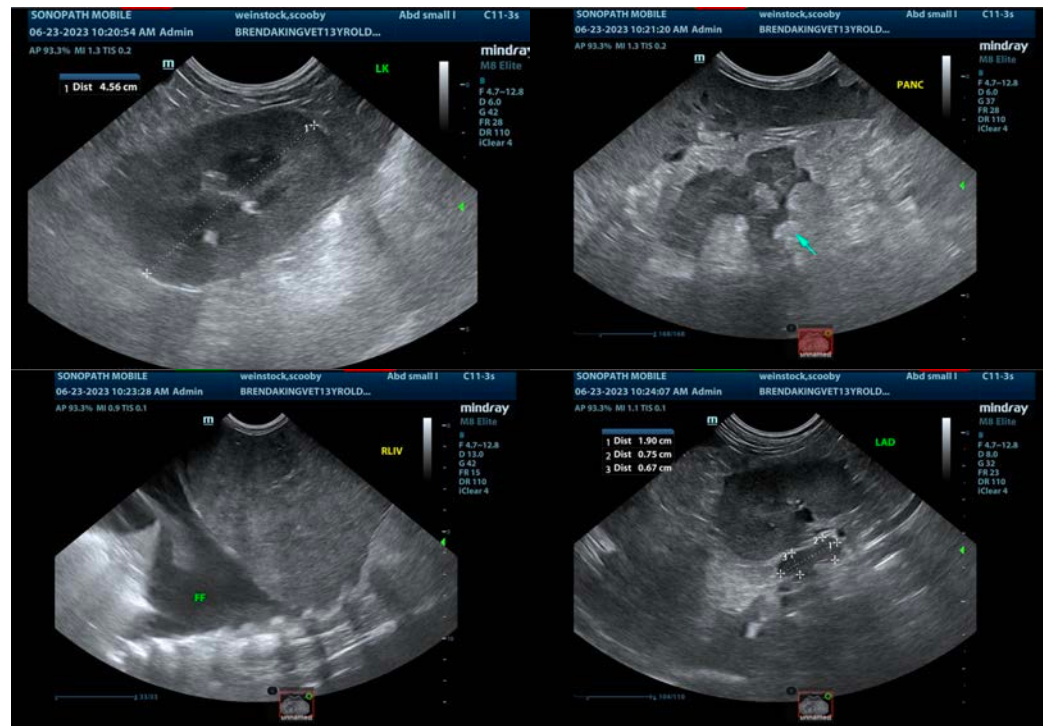
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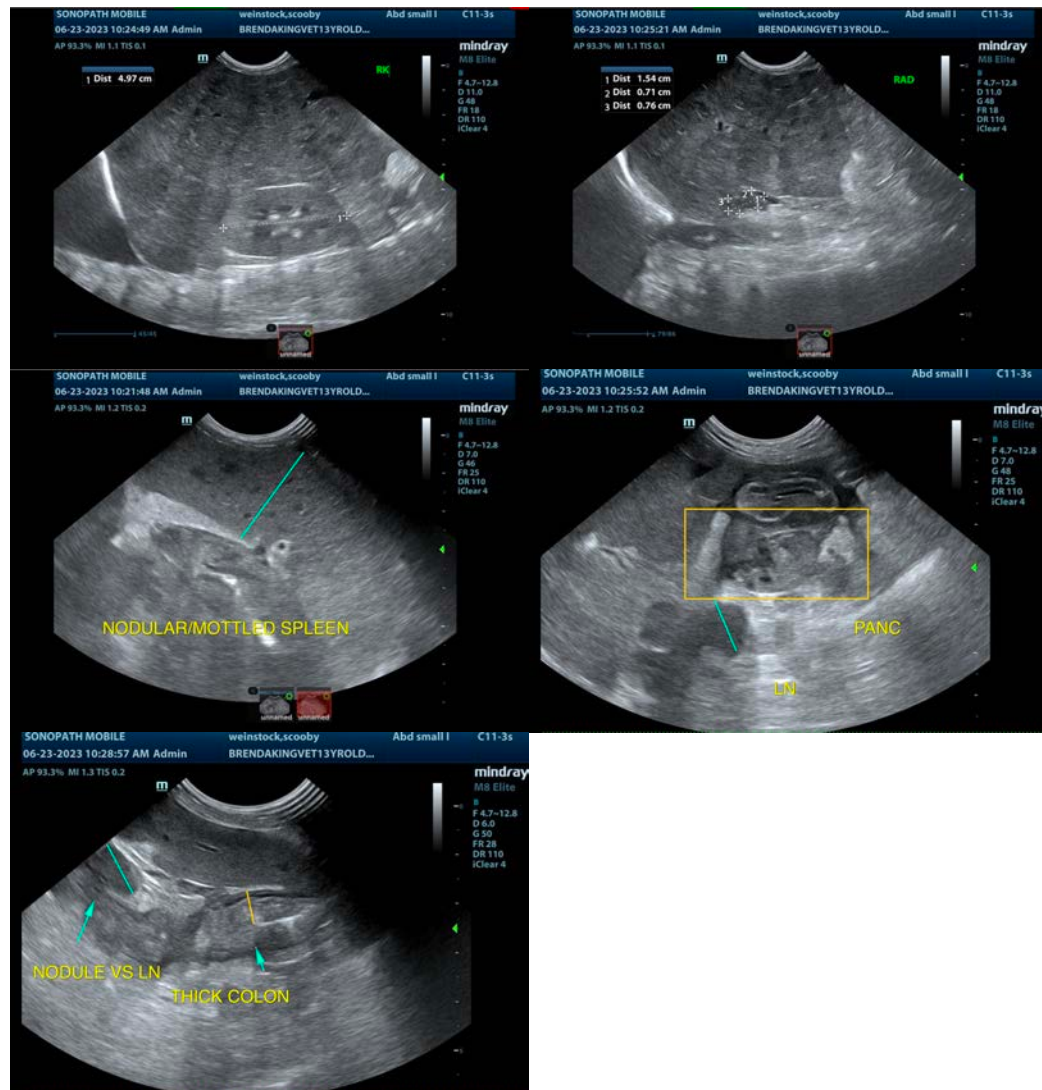
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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