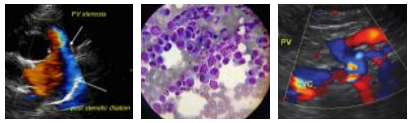
IMAGING PERFORMED BY

IntraPet.com



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DATE

8.11.2023

PATIENT

Teddy Homberg

SPECIES

Canine

BREED

Sheltie

SEX

Neutered Male

AGE

6/29/2013

WEIGHT

41lbs

INTERPRETED BY

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

HOSPITAL NAME

Hickory VH

REFERRING VET

Dr. Lyle

INVOICE

14063

PRESENTING CLINICAL SIGNS

Presented for decreased appetite, diarrhea, chronic skin and decreased mobility. Mild WBC elevation, mild anemia and loss of detail around spleen with irregular liver margins on rads.

Current Medications: 8/5 Cefpodoxime, Proviable, Metronidazole, Cerenia, Gabapentin
Lab Results: 8/5 WBC 18.78, Hct 27.9, ALKP 1384, BUN 37. U/A: SG >1.040, WBCs 16/hpf
Radiographs: Loss of detail around spleen with irregular liver margins
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

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 2 cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic. In the dependent portion of the urinary bladder, there is a small amount of hyperechoic debris most consistent with sandy, mineralized debris.

The prostate is normal in size (0.93 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.80 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (5.48 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (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 (0.43 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 large in size, irregular, and heterogenous, particularly on the left side of the liver where the parenchyma has an almost marbled appearance. 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.

Gastrointestinal

The stomach contains moderate shadowing ingesta. It measures at a normal thickness of <0.7 cm 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 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. The duodenum measured as normal (0.43 cm) and the jejunum measured as normal (0.33 cm) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The region of 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 omentum is generally of normal echogenicity, although there are some focal areas of mesentery, particularly near the liver, where there are hyperechoic, patchy areas of fat visualized within the mesentery, possibly consistent with atypical fat.

ULTRASONOGRAPHIC FINDINGS

- Hyperechoic dependent debris visualized in the urinary bladder – Findings most consistent with sandy debris/small stones. Correlate with urinalysis and culture results.

- Large irregular heterogenous liver - The liver is subjectively large in size, with normal echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The left side of the liver appears more significantly affected than the right.

- Moderate gallbladder debris – 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.

- Moderate shadowing ingesta visualized within the stomach – Correlate with feeding history if the patient was adequately fasted. Consider such differentials delayed gastric emptying or a pyloric outflow obstruction (none observed).

- Patchy hyperechoic areas of mesentery adjacent to the liver. The significance of this is uncertain. This does not have the appearance of typical reactive mesentery. Continued monitoring is warranted.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

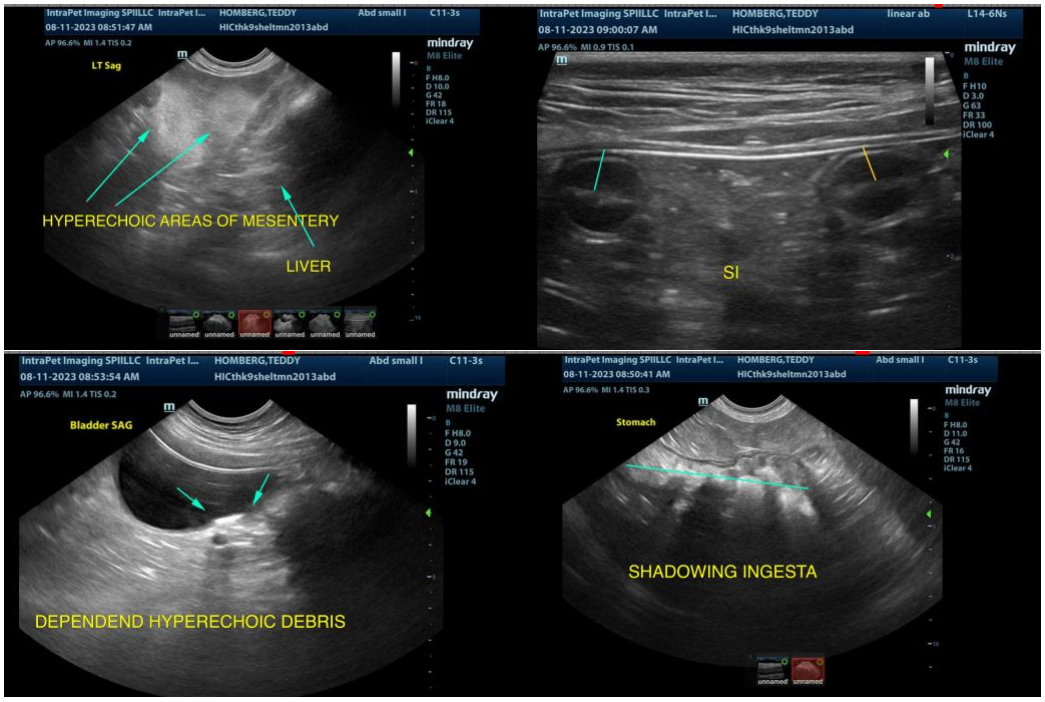
An obvious source for the diarrhea and decrease in appetite is not noted on today's exam. There are some abnormalities which may or may not be related to the symptoms described.

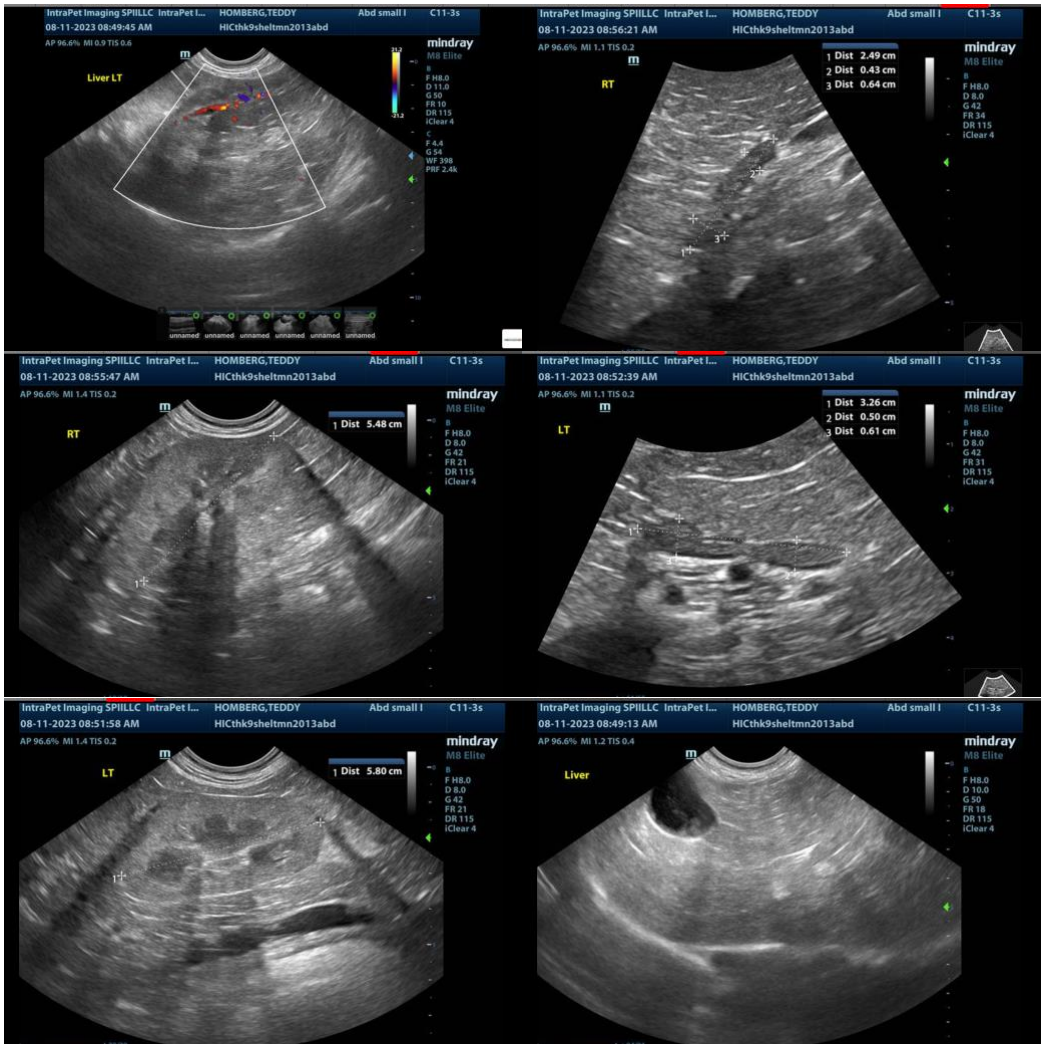
The liver appears large, irregular, and mottled, particularly the left side of the liver. Consider a liver function test and fine-needle aspirate of the left side of the liver. Additionally, there are some patchy areas of hyperechoic mesentery adjacent to the liver. This does not have the typical appearance of reactive mesentery. It could be an incidental finding. This is of questionable significance and could be associated with the poor definition visualized on radiographs (?).

Unfortunately, there are many causes for diarrhea and inappetence which cannot be diagnosed by ultrasound alone. If liver function is good, and there is no evidence of other metabolic disease based on bloodwork, then a primary enteropathy would be possible, as significant ultrasonographic lesions are not always visualized. You could consider the following to further evaluate for the possibility of a concurrent enteropathy:

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks).
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc. to further evaluate for pancreatic/small intestinal disease.'
- Recommend chronic probiotic therapy

If further evaluation of the liver and symptomatic therapy for gastroenteritis does not improve symptoms, then consider reevaluation and the possibility that biopsies of the GI tract or liver may be necessary.





The information and recommendations provided are based on the images presented by the referring veterinarian. 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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