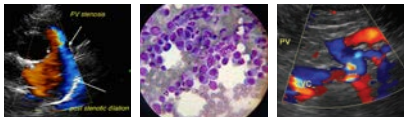
IMAGING PERFORMED BY

IntraPet.com



SonoPath
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DATE

12/20/22

PATIENT

Daisy Dalton

SPECIES

Canine

BREED

West Highland Terrier

SEX

Spayed Female

AGE

9/30/19

WEIGHT

9.2 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Goessling

INVOICE

43564

PRESENTING CLINICAL SIGNS

Two week history of decreased appetite, vomiting after eating, concern for weight loss over past 2 months. usually just runs through the house, but now docile, less active. Does chew up/ tear stuff apart but doesn't generally ingest it. Can only eat regular dog food, usually vomits if she gets treats or table food.

Current Medications: Cerenia, Ampicillin.
Lab Results: NH3- 39 (n- 0-98), ALT- 432 (n- 10-125), Alkp- 254 (n- 23-212), Tbili- 1.5 (n- 0-0.9)
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris and a large amount of dependent shadowing/sandy debris present. 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 calculi. Echogenic debris of this type can be associated with small crystals, sandy debris or small calculi. Correlate findings with abdominal radiographs, urinalysis and culture.

The left kidney has a normal shape and size (4.34 cm) with pinpoint non-obstructive nephroliths. 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 (4.81 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 XXcm 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 0.39 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 large in size, and normal in 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. While no discrete mass effects are visualized, the borders of the liver are irregular with heterogeneous parenchyma bordering on nodular in some areas.

The gallbladder lumen is significantly distended. The wall of the gall bladder appears prominent and slightly thickened with a smooth mucosal surface at 0.20 cm. There is a moderate amount of non-organized

echogenic debris, and some smaller areas of shadowing echogenic debris, most consistent with small stones/sandy debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. 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 appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measures 0.290 cm. Duodenum wall measures 0.30 cm. 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 formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering. Large intestinal wall measures 0.52 cm.

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

There is a scant amount of free abdominal fluid. There is a large isoechoic lymph node visualized at the root of the mesentery measuring approximately 0.65 cm in diameter. The omentum appears diffusely mildly hyperechoic.

ULTRASONOGRAPHIC FINDINGS

- Large amount of dependent echogenic sandy material in the urinary bladder – Findings are consistent with small stones/sandy debris. Correlate with abdominal radiographs, urinalysis and culture.
- Large, irregular, heterogeneous liver – The diffuse hepatic changes are non-specific and can be seen with vacuolar hepatopathy, reactive change, nodular hyperplasia or, less likely, inflammatory/immune-mediated disease, infiltrative neoplasia, or other hepatopathy.
- Distended gallbladder with a mildly thickened wall and a moderate amount of hyperechoic intraluminal debris and some shadowing stones/sandy material – Findings could be consistent with cholecystitis +/- choleliths.
- Subjectively thickened small intestine – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).
- Prominent/visible mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Scant free abdominal fluid

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver appears large, irregular, and heterogeneous, particularly for a young dog. This is a non-specific finding. Consider the following:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics, +/- ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

Additionally, the gallbladder is somewhat thickened and irregular. It does not have the appearance of a mucocele, but cholecystitis is possible, and continued monitoring of the gallbladder is warranted.

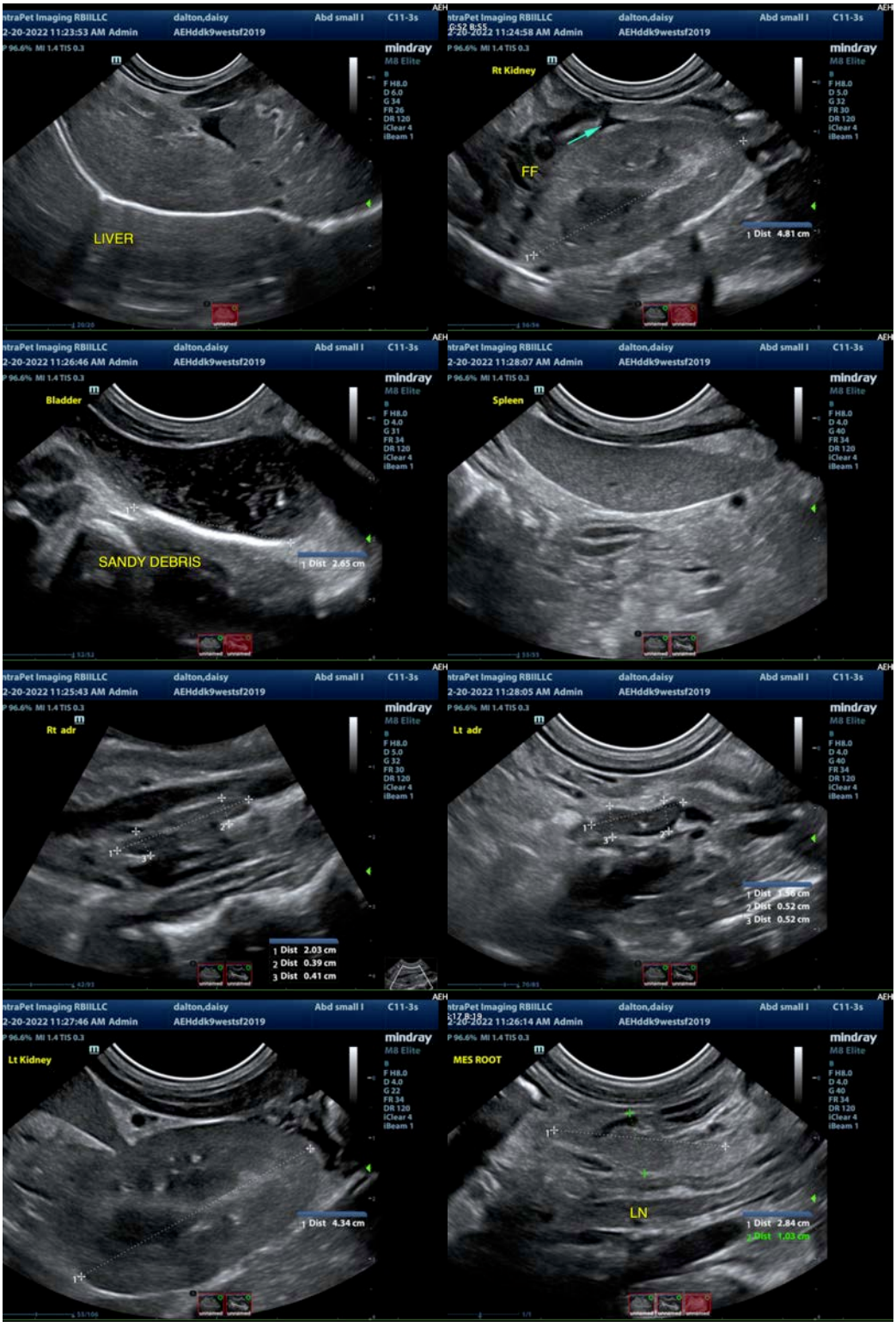
There is the subjective intestine of thickened small intestine. The vomiting reported could be secondary to liver disease or could be due to primary gastrointestinal disease. Consider the following to further investigate for underlying intestinal disease.

- 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.
- Consider chronic probiotic therapy.
- If concurrent GI disease is strongly suspected, consider obtaining GI biopsies.

There is an enlarged mesenteric lymph node visualized, but it appears relatively isoechoic. This is likely a reactive lymph node. A fine needle aspirate could be considered to confirm.

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

If symptoms persist and cytologic evaluation of the liver along with other recommendations are not diagnostic, consider surgical biopsies of the liver, GI tract, and lymph nodes, as this may be necessary to diagnose some possible causes of the symptoms reported.


dalton,daisy
Abd small I
C11-3s
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AEHddk9westsf2019
mindray
M8 Elite
LIVER
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Rt Kidney
FF
1 Dist 4.81 cm
2-20-2022 11:26:46 AM Admin
Bladder
SANDY DEBRIS
1 Dist 2.65 cm
2-20-2022 11:28:07 AM Admin
Spleen
2-20-2022 11:25:43 AM Admin
Rt adr
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2 Dist 0.39 cm
3 Dist 0.41 cm
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Lt adr
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2 Dist 0.52 cm
3 Dist 0.52 cm
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Lt Kidney
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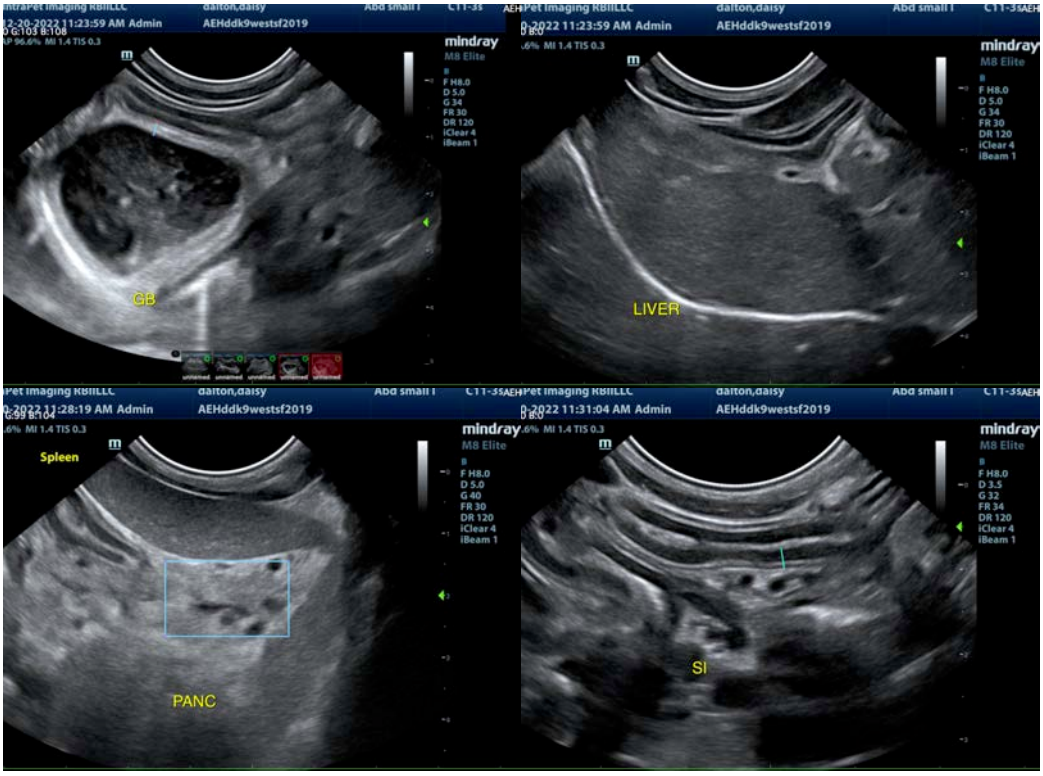
MES ROOT
LN
1 Dist 2.84 cm
2 Dist 1.03 cm



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.

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