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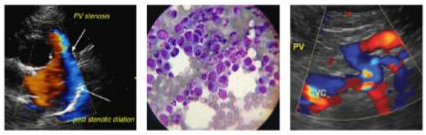

SonoPath
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PATIENT

Herbie Kritch 47404A

SPECIES

Canine

BREED

Boston Terrier Mix

SEX

Neutered Male

AGE

11 Years

WEIGHT

13 kg

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Madison VS- Dr. Maller

INVOICE

20214

DATE

12/20/22

PRESENTING CLINICAL SIGNS

History: Herbie presented to the MVS Emergency Service on Dec 20, 2022, at 8:30am, for evaluation of vomiting and diarrhea. Herbie has had diarrhea for the past ~7 days; Nicole gave Metronidazole for the first 5 days. His stools were very runny initially, now they're slightly more firm. Yesterday he ate/drank and then immediately vomited, multiple times. This morning he vomited some bile and some red-tinged water. Nicole has been feeding a bland diet (hamburger, chicken, rice) for the past week and limiting treats. He was previously treated through the MVS Oncology Service for osteosarcoma of the right proximal tibia with amputation; his last chemo treatment was on 5/17/22. He also had a history of a low-grade MCT on the right lateral body wall that was completely excised on 1/4/22.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

Left kidney is normal is size (5.09 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Right kidney is normal is size (5.09 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

Left adrenal gland is normal in size (0.64 cm at cranial pole and 0.61 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

The right adrenal gland is plump/swollen in size (1.23 cm at cranial pole and 0.7 cm at caudal pole). Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. No focal nodules or masses are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as moderate suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

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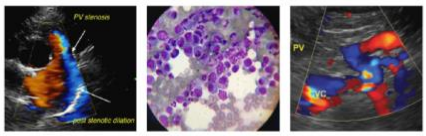

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The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

Small intestine is diffusely mildly thick with a relatively thick mucosa compared to other layers. Normal wall layering is preserved; however, the mucosa is more echogenic than normal and contains hyperechoic striations perpendicular to the lumen. The lumen of the small intestine is empty with no evidence of obstruction or foreign material.

The visible colon is the upper end of normal in wall thickness to slightly mildly thick with normal intact layering, measuring 0.31 cm thick. Contents are consistent with normal formed feces and gas.

Pancreas

The area of the pancreas contains irregular hyperechoic pancreatic remodeling.

Free Abdomen

There is a scant amount of anechoic free fluid, primarily surrounding the spleen and between bowel loops.

The medial iliac lymph nodes, mesenteric lymph nodes and hepatic lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Hyperechoic pancreas – This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.
- Hypoechoic hepatomegaly-This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.
- Lymphangiectasia in addition to mild concurrent colitis – Small bowel findings are most consistent with lacteal dilation. These findings can be observed with protein-losing enteropathies caused by either primary lymphangiectasia or primary infiltrative inflammatory disease with secondary lymphangiectasia. Infiltrative neoplasia is possible but considered less likely. Histopathology is necessary to definitively determine underlying cause.
- A scant amount of anechoic free fluid and reactive medial iliac, mesenteric and hepatic lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

Secondary Findings

- Right adrenomegaly. This is consistent with adrenal hyperplasia, secondary to pituitary dependent hyperadrenocorticism versus adrenal adenoma versus stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism or lack thereof.
- Moderate gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial

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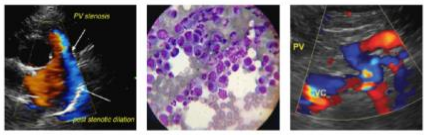

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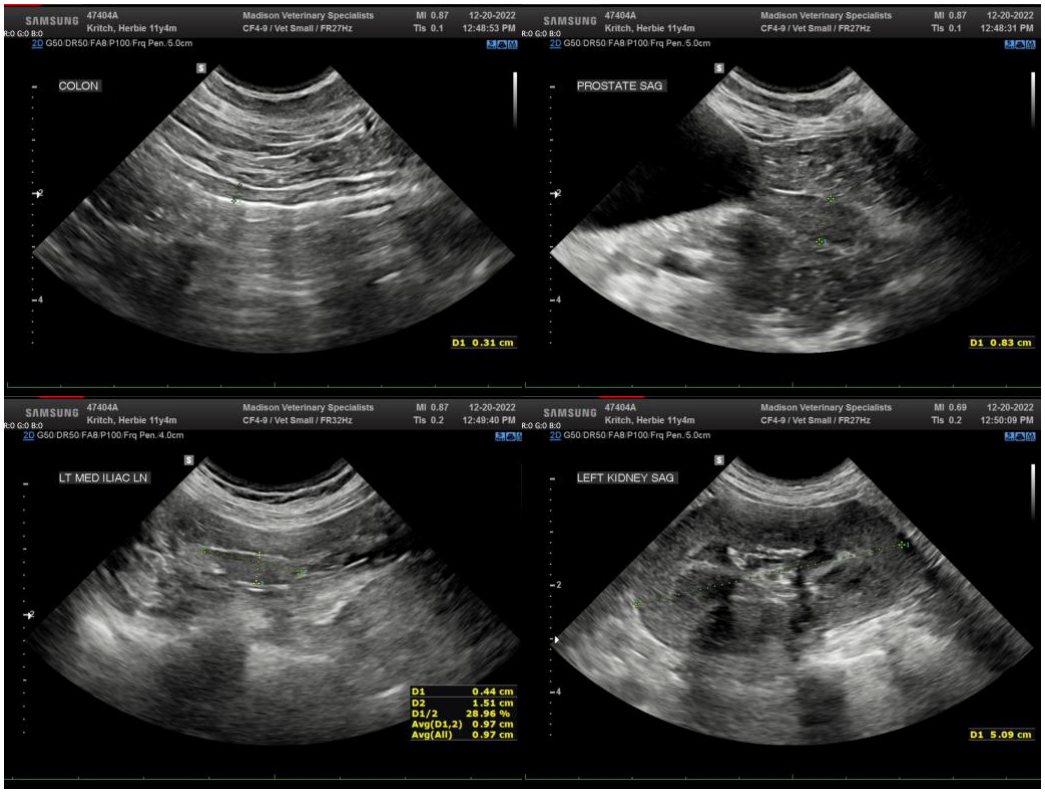
abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, this patients history and ultrasound findings are concerning for a protein losing enteropathy, possibly lymphangiectasia, combined potentially with a hepatitis or a resolving chronic active hepatitis or even infiltrative neoplasia (such as lymphoma) affecting the liver can't be ruled out. Recommendations, if not recently evaluated, include a metabolic health screen, including CBC/Chemistry panel and electrolytes, as well as urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Additionally, a fine needle aspirate of the liver if patients coagulation status is appropriate, especially if chemistry panel, etc., support concurrent hepatopathy or further evaluation of the gastrointestinal tract in the form of biopsies of the GI tract may be recommended. If lab work is consistent with protein losing enteropathy, and biopsies cannot be obtained safely, due to low albumin, patient stability, etc., empirical therapies could include a diet change to an ultra-low-fat diet, empirical deworming with a 5-day course of Panacur, cobalamin supplementation, unless not indicated based on gastrointestinal malabsorption panel results, a probiotic +/- prednisolone if not contraindicated based on comorbidities, etc. Calcium monitoring and supplementation, if necessary, is also recommended with protein losing enteropathy.



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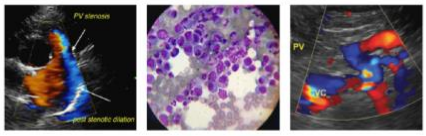

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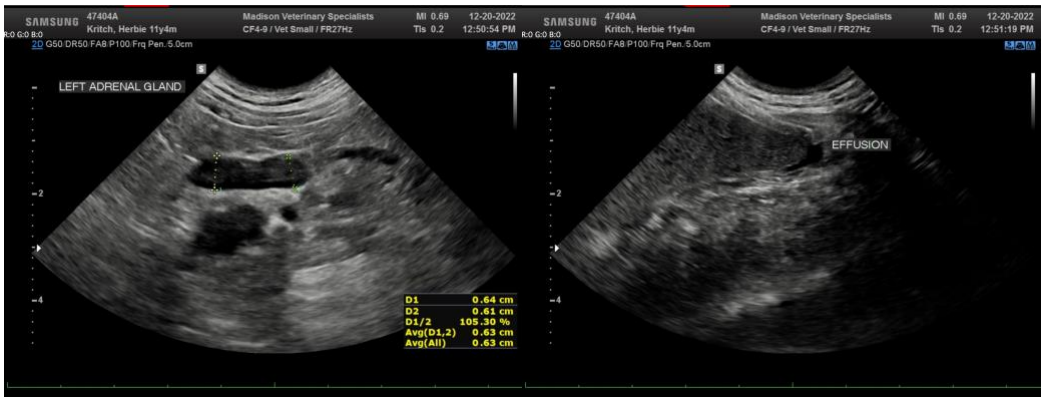

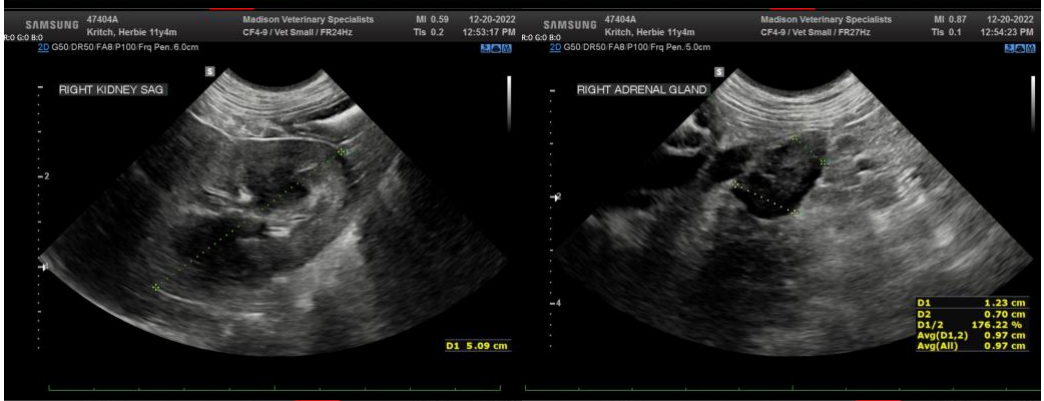

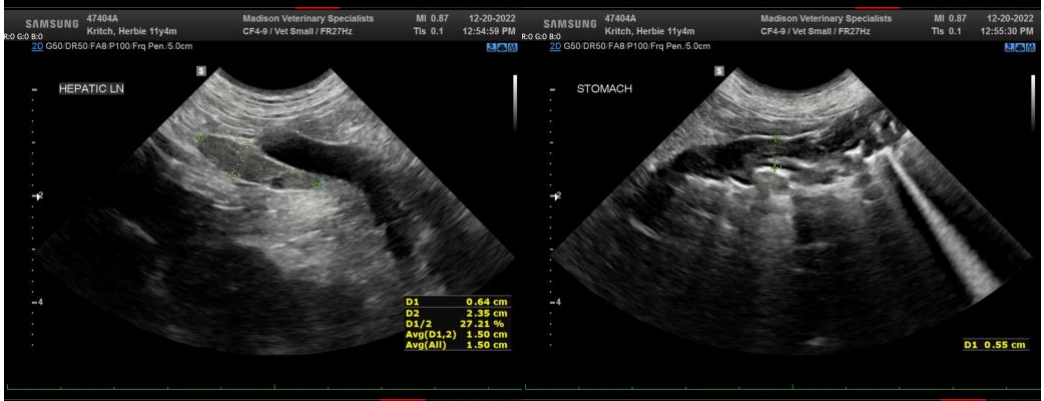

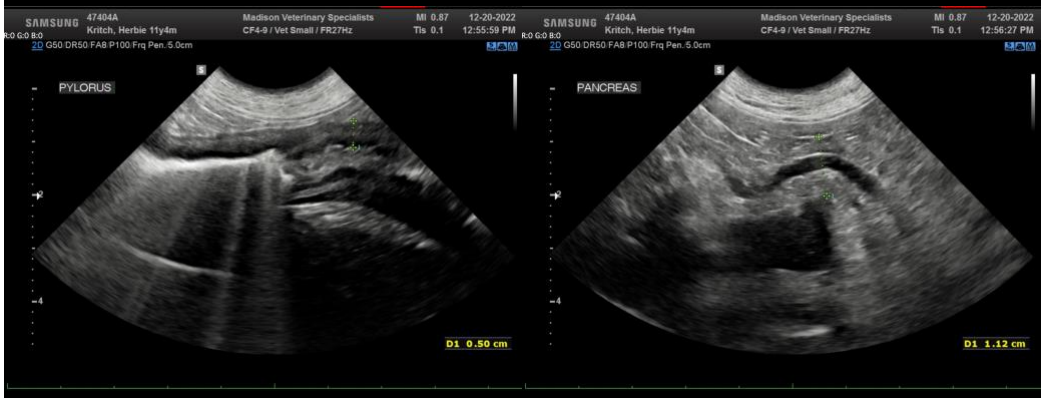

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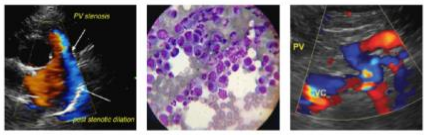

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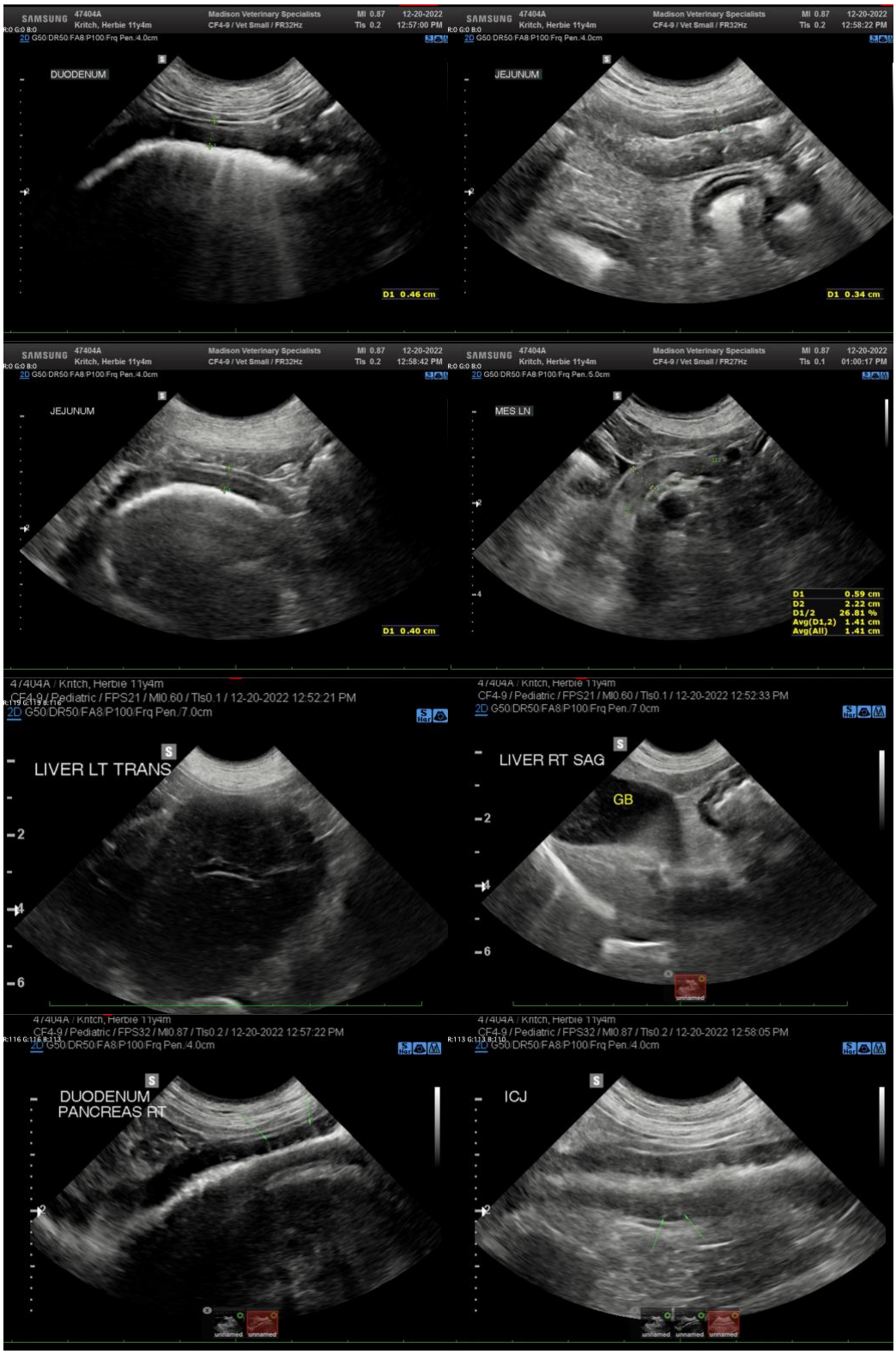

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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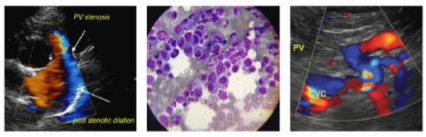

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Beth Johnson, DVM DACVIM

Beth.Johnson@SonoPath.com