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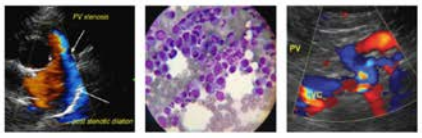

SonoPath
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PATIENT

Boeing Hampton

SPECIES

Canine

BREED

Labrador

SEX

Neutered Male

AGE

7 Years

WEIGHT

82 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Runnells, RVT

HOSPITAL NAME

SVS Imaging KC

REFERRING VET

Dr. Casey Meyer

INVOICE

41512

DATE

9/21/22

PRESENTING CLINICAL SIGNS

Presented 11 days ago for vomiting, inappetence, and diarrhea, but still had energy. Treated with Metronidazole as there was a clostridial overgrowth, probiotic, cerenia injection, and cerenia tablets and then instructed to do a bland diet. Boeing was also diagnosed with pancreatitis at this time. Yesterday, Boeing was presented for continued inappetence. O switched the diet to a low fat diet as recommended. The vomiting has stopped, but Boeing, who usually loves food, has skipped breakfast a few times this week and the stool is still soft.

Abnormal PE/Chem/CBC/UA Results: n April, Bloodwork showed mild elevation in ALP 334 (5-131) and no other issues on CBC/Chem, and he was 86 lbs. In February, full bloodwork showed that ALP 353 (5-131), but T4, CBC/Chem, and UA were within normal limits. Today ALP 215 (20-150), CRE 1.4 (0.3-1.4) CBC=wnl. Suspect abdominal mass. Radiologist report from Tallgrass also noted suspicion and recommended ultrasound.

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 prostate is normal in size (1.3 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 (7.97 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.

The right kidney has a normal shape and size (7.6 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 0.81 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 0.78 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. The spleen echotexture is heterogenous and mildly mottled, 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.

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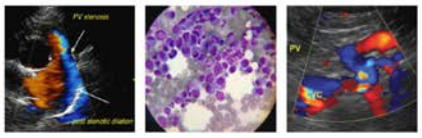

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Liver

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. No focal nodules or cystic lesions are observed.

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.

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.

Some of the visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. These areas of bowel appear somewhat thickened but have intact wall layering. In these more normal areas, the jejunum measures at 0.39 cm. In other areas there is progressive thickening of the bowel and loss of layering, typically leading to an area of severely thickened bowel with complete loss of layering, creating a bowel mass effect. In this region, the bowel wall measures 1.8 cm in thickness and the bowel loops is 2.5 cm in diameter. These areas of abnormal bowel are fairly extensive and are adjacent to severely enlarged lymph nodes, often having the appearance of being adhered to attached to some of these mass lesions.

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.

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 small to moderate amount of free abdominal fluid. There is a severe diffuse lymphadenopathy with hypoechoic rounded lobulated lymph nodes visualized throughout the abdomen. In the mid abdomen, some of these lymph nodes are so large that they cannot be differentiated from the primary mass lesion. Examples of lymph nodes in this area measure 3.3 cm x 7.84 cm and 3.2 cm x 5.87 cm. Additional lymph nodes measure 1.5 cm and 0.97 cm in width. The omentum is diffusely hyperechoic and reactive.

ULTRASONOGRAPHIC FINDINGS

- Heterogeneous liver – 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.
- Stomach dilated with fluid/ingesta – Correlate with feeding history. Alternately, this could represent ileus.
- Severe mesenteric lymphadenopathy – The severe mesenteric lymphadenopathy is most 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

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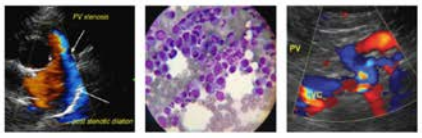

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recommended for further evaluation.

- Severely thickened small intestine with complete loss of layering – Findings are concerning for underlying infiltrative disease and a bowel mass.
- Small to moderate amount of free abdominal fluid

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The majority of the small intestine appears thickened. Some areas have adequate detail of wall layering, but many have a disrupted irregular muscularis and mucosal layer. Other areas have complete loss of layering and severe wall thickening, most consistent with a focal bowel mass.

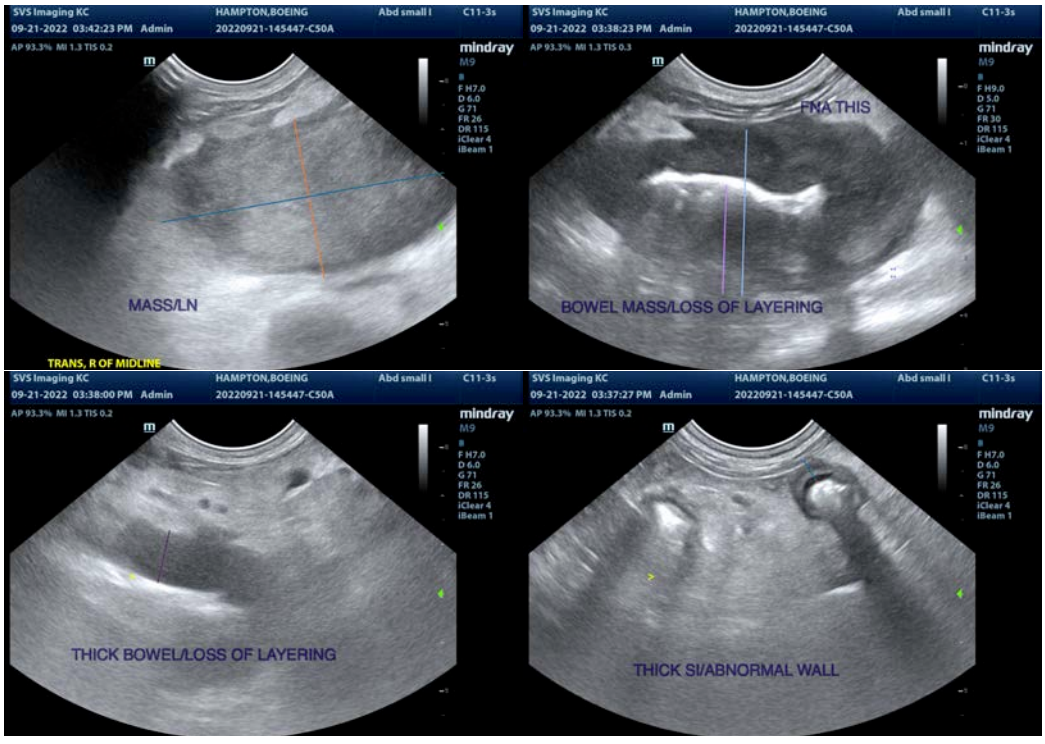
In addition to the bowel lesions, there is a severe diffuse mesenteric lymphadenopathy with lymph nodes near the root of the mesentery that are large enough to be indistinguishable from the primary bowel masses. These lymph nodes are hypoechoic, rounded, and lobulated.

The liver and spleen appear somewhat heterogeneous. This could be consistent with non-specific change but is concerning for possible infiltrative disease.

Recommend a fine needle aspirate of a mesenteric lymph node and an area of thickened bowel with complete loss of layering. Additionally, a sample of free abdominal fluid for fluid analysis and cytology could be considered.

Round cell neoplasia would be the primary differential. Other differentials exist, but there is a strong suspicion for metastatic neoplasia. If a diagnosis can be obtained cytologically, recommend consultation with a veterinary oncologist regarding treatment options and prognosis.

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



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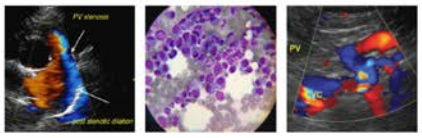

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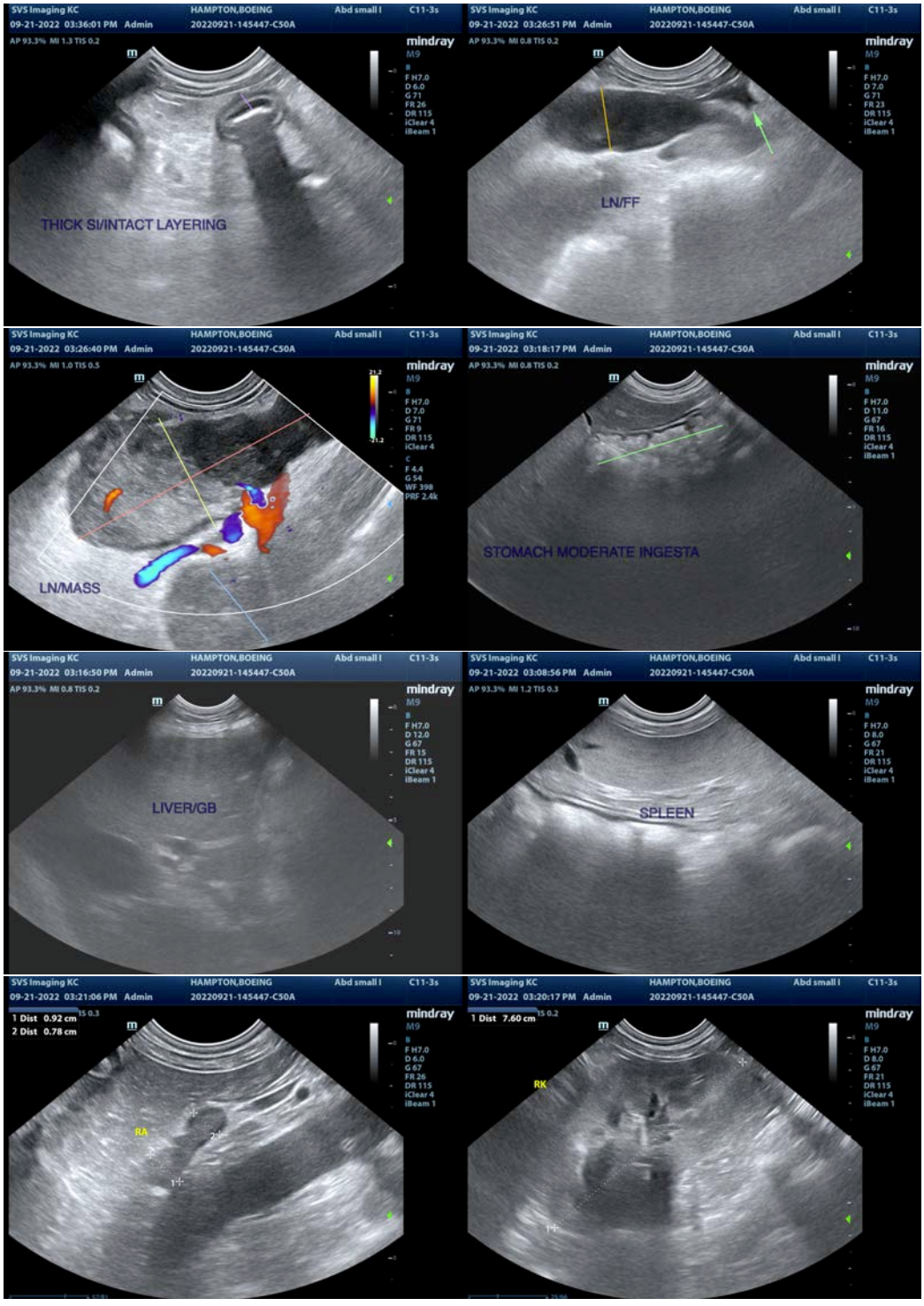

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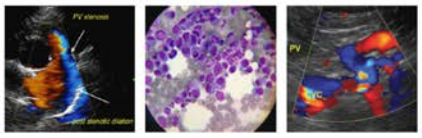

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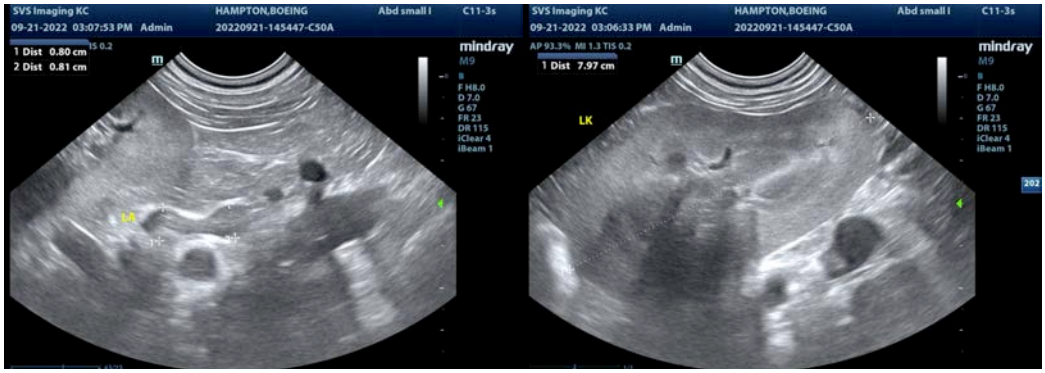

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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