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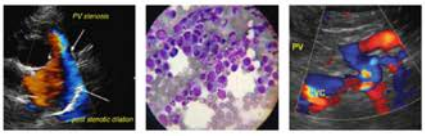

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PATIENT
Leo King

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
14.5 Years

WEIGHT
9.75 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Amy Mayhew, LVT

HOSPITAL NAME
SVS Imaging MI

REFERRING VET
Dr. Monica Turenne

INVOICE
45469

DATE
2/23/23

PRESENTING CLINICAL SIGNS

Leo has had vomiting and diarrhea over the last week and had lost weight. His appetite was also decreased though is now better with Mirtazapine. His water intake was also very low but this seems to have improved. Energy level has been low overall. SQ fluids were given on February 16 and he did seem to perk up with these but due to concern about his heart murmur, we repeated fluids again 2/22/23. Leo is hyperthyroid and bloodwork done on 2/1/23 b/c his pet parents felt he was sleeping more than usual and were concerned about whether we were overmedicating his hyperthyroidism. Bloodwork showed that his T4 was actually elevated with normal kidney values. We elected to increase his thyroid medications from 5.0mg in AM and 2.5mg in PM to 5.0mg BID. It was about a week later that he began having the symptoms of vomiting and diarrhea. We decreased Methimazole to 2.5mg in AM and 2.5mg in PM but this did not seem to make a difference in his clinical symptoms. I was concerned he was azotemic secondary to the increase in Methimazole but subsequent bloodwork did not show this to be the case. We elected to keep Methimazole dose at 2.5 BID for now just to not complicate his clinical picture. Leo historically has been hypertensive but recent BP have been normal. Last readings on 2/1 were ~ 175 but he was more agitated than normal so interpreted his BP to be normal. Medications: 1. Methimazole transdermal 5.0mg/0.1 ml - Apply 0.05ml to the inner aspect of his ear flap in the morning and evening, alternating ears. 2. Metronidazole 65mg BID 3. Amlodipine 2.5mg/ml- sig: Give 0.25ml (1/4 ml) by mouth every 12 hours.

Abnormal PE/Chem/CBC/UA Results: Grade III systolic murmur. Dehydrated. Bloodwork on 2/16 showed mild lymphocytosis and monocytosis, slight increase in ALT and ALP and normal T4. Bloodwork on 2/1 showed mild increase in ALT and ALKP as well as mod lymphocytosis and increased T4

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately 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.

The right kidney is normal in size (4.04 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. A 0.8 cm x 0.9 cm anechoic structure is noted in the caudal pole, which most likely represents a cortical cyst. A nodule can't be ruled out but is considered less likely. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (4.12 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

The right adrenal gland is normal in size (0.42 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is not well visualized in these images, but the area is examined without evident adrenal gland pathology.

Spleen

The 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). An approximately 1.0 cm heterogeneous mid body mass is noted, resulting in a

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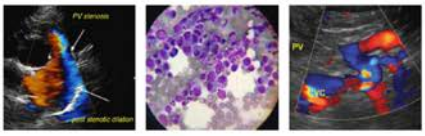

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capsular bulge with a characteristic "target lesion" (i.e., hyperechoic center with hypoechoic rim). Splenic vasculature appears normal.

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.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

Free Abdomen

In the mid and caudal abdomen, mesenteric and medial iliac lymph nodes are enlarged with swollen irregular capsular contour and loss of normal length to width ratio (rounded in shape). Nodes are hypoechoic with loss of normal parenchymal detail. The lymph nodes are surrounded by a scant amount of anechoic free fluid as well as enhanced hyperechoic fat.

PRIMARY FINDINGS

- **Gastrointestinal lymphoma (suspect) pattern –** Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. Given the concurrent pathology noted, infiltrative neoplasia is considered more likely, but benign IBD cannot be ruled out without tissue sampling.
- **Aggressive mid and caudal abdominal lymph nodes –** most consistent with infiltrative round cell or metastatic neoplasia. A benign aggressive inflammatory response cannot be ruled out without tissue sampling +/- culture.
- **Splenic mass –** Given the concurrent pathology and with the characteristic target lesion, this is also most concerning for infiltrative neoplasia, likely round cell neoplasia. A benign lesion is possible but considered less likely.
- **Hypoechoic hepatomegaly** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.

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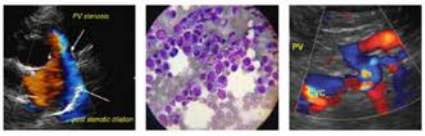

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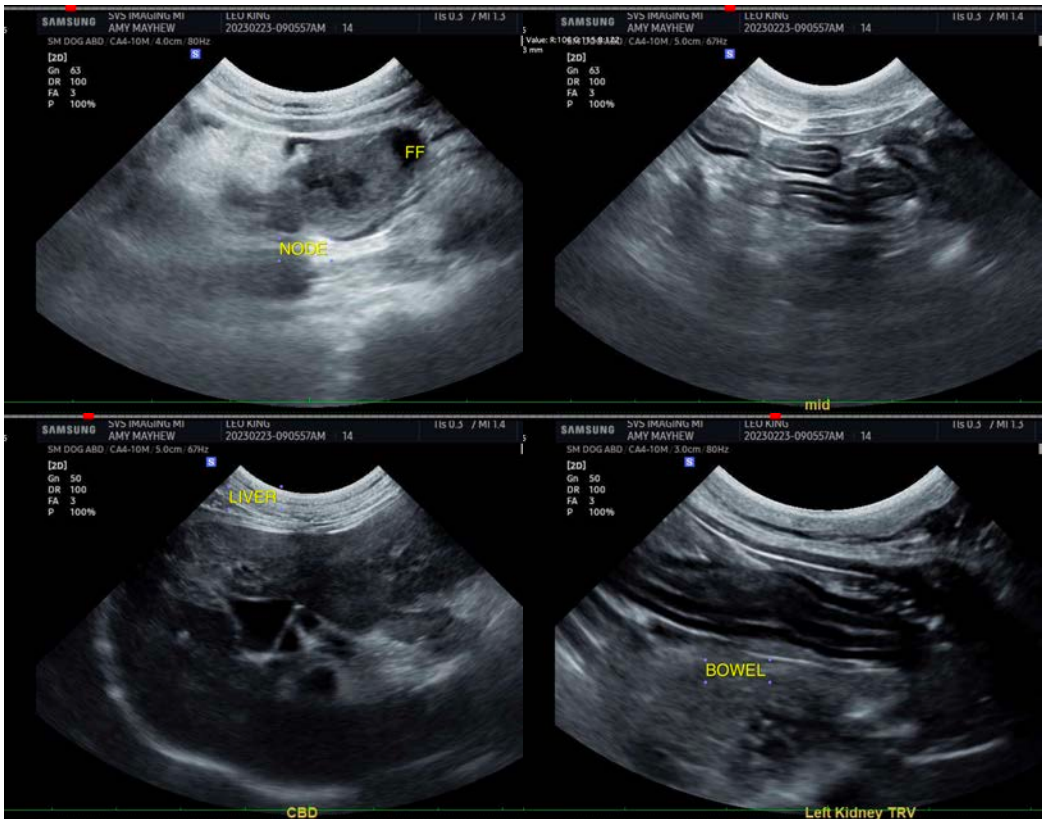
SECONDARY FINDINGS

- Suspect cortical cyst in the right kidney. However, an infiltrative neoplasia nodule cannot be definitively ruled out.
- Chronic active pancreatitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The top differential for the combination of abnormalities described above is infiltrative neoplasia such as lymphoma. Therefore, recommendations include tissue sampling, beginning with fine needle aspirates of the enlarged lymph nodes +/- the splenic mass +/- liver if patient's coagulation status is appropriate.

Additionally, to help guide therapy, 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.



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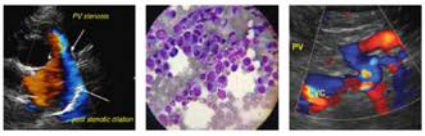

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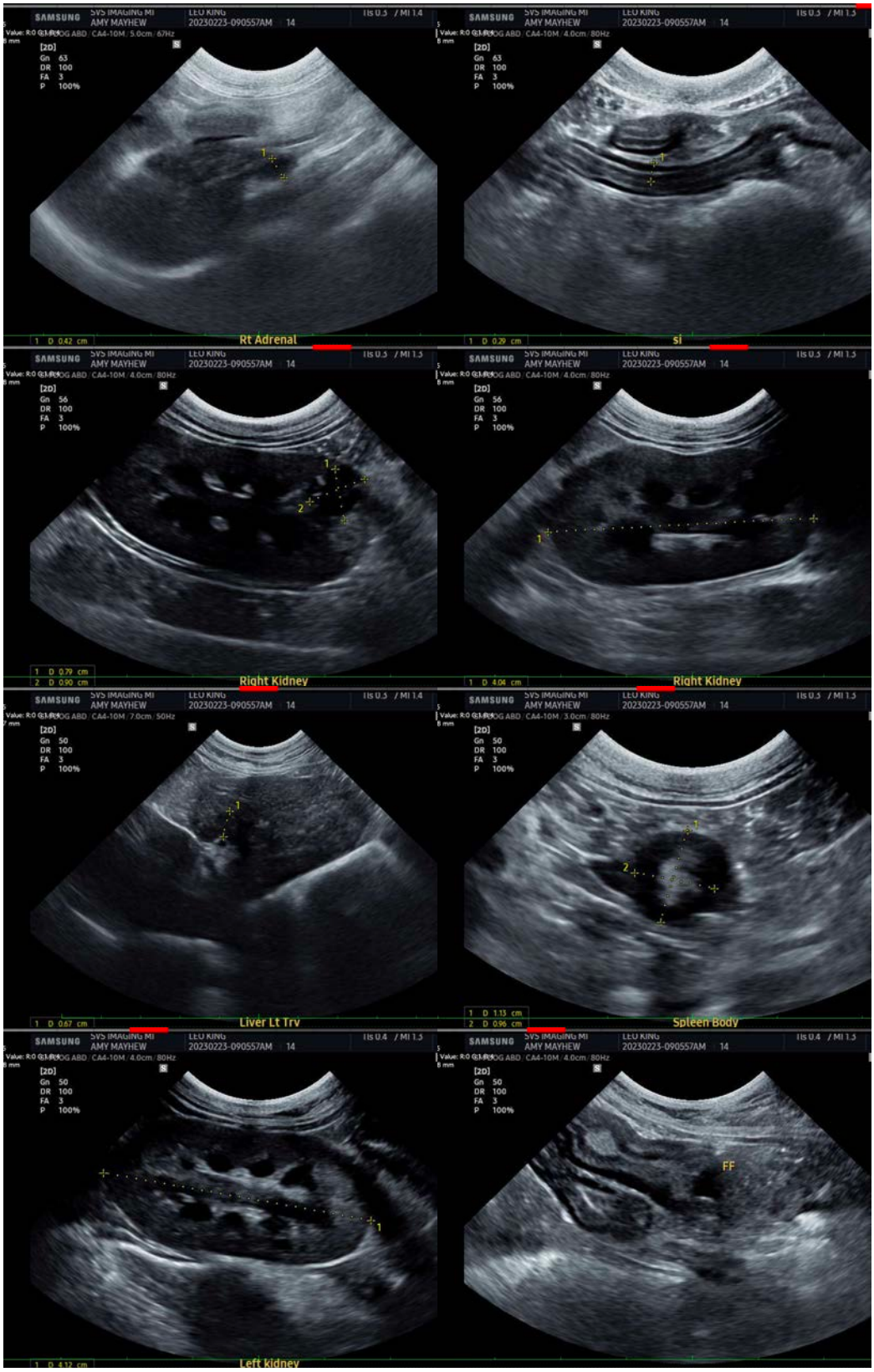

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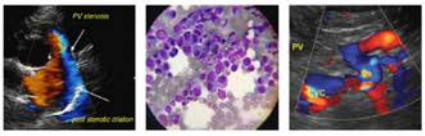

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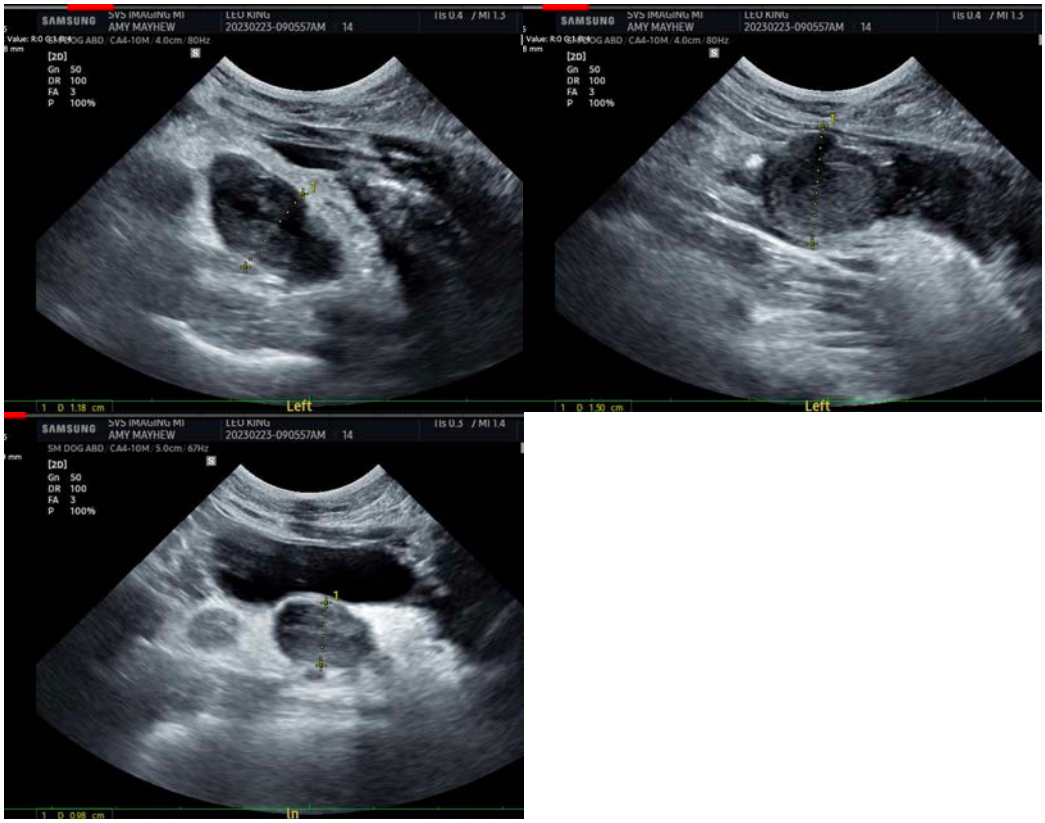

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com