

**PATIENT**

Buddy Miller

SPECIES

Canine

BREED

Labrador

SEX

Neutered Male

AGE

12 Years

WEIGHT

91.6 Pounds

INTERPRETED BYKathleen 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

41092

DATE

9/7/22

PRESENTING CLINICAL SIGNS

Increased RR and coughing, paws randomly swell. DX with DCM 09/2020. Rechecks in Jan and March 2021 showed improvement with diet change (was on long term grain free diet before that). 7/6/21: recheck showed improving DCM, stage B2. Rads of that day - upper limit of normal heart size, with prominent R side. Cranial displacement of stomach on lateral rads. 8/19/2021: Went to cardiologist for cough and that cough producing mucus or fluid often. Current meds at that time: enalapril, Pimobendan, doxycycline and cough tabs. Dx with DCM stage B2. They also noted at that time small hypoechoic liver nodules, mildly enlarged spleen. Symptoms suspicious of hiatal hernia vs other esophageal disease. No pulmonary edema on rads. RX omeprazole and reglan.

Abnormal PE/Chem/CBC/UA Results: ECG shows suspect VPCs after each beat for 5 beats.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.44 cm), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, masses or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

The prostate is normal in size (1.1 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 is normal in size but irregular in shape, measuring 7.88 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 a very small cystic structure near the cranial pole of the kidney that is surrounded by ill-defined hyperechoic tissue that bulges slightly from the renal capsule. This area measures 2.09 cm x 2.43 cm. There is no evidence of pyelectasia, infarcts, or hydroureter. Renal vasculature appears normal.

The right 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.

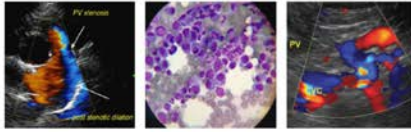
Adrenal Glands

The left adrenal gland is normal in size measuring 0.66 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 0.68 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 normal/borderline large, 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. The vasculature appears somewhat prominent and distended.

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Liver

The liver is large, and normal in echogenicity with smooth peripheral margins. The parenchyma is severely heterogenous in echotexture with subtle, indistinct focal mottling. The vasculature appears somewhat prominent and distended. There are numerous ill-defined hypoechoic nodules throughout the hepatic parenchyma. One of the more prominent, larger nodules measures 1.99 cm x 0.97 cm.

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 is mildly dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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 (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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.

Pancreas

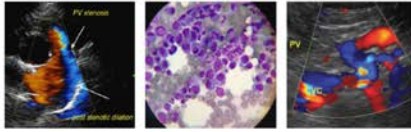
The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a prominent lymph node in the cranial abdomen measuring 0.81 cm (likely gastric lymph node). Additionally, there is a slightly cystic, rounded structure in the cranial abdomen near the porta hepatis measuring 2.09 cm x 2.43 cm. This could represent an enlarged lymph node, pancreatic lesion, etc. The omentum is generally of normal echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Diffusely irregular and mildly thickened urinary bladder wall – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Irregular, hyperechoic region in the cranial pole of the left kidney – The significance of this lesion is unclear. This could represent some inflammation and mild disruption secondary to the development of a renal cyst, or this could be an early mass lesion.
- Borderline large spleen – I suspect this is within normal limits for this larger dog.
- Large, heterogeneous, diffusely nodular 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



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hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out.

- Prominent cranial abdominal lymph nodes and a small, rounded, slightly cystic mass effect in the right cranial abdomen – This could be consistent with an atypical lymph node, less likely a pancreatic lesion or other mass effect.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The urinary bladder is slightly irregular and thickened. Recommend a urinalysis and culture.

There is a slight irregularity to the left kidney with a hyperechoic lesion with a very small cyst that bulges slightly from the kidney. This can be an early mass effect or inflammation/disruption due to the cystic structure. Options moving forward would include continued monitoring or a fine needle aspirate (only if blood pressure and coagulation parameters are normal).

The liver is large and heterogeneous with diffuse hypoechoic nodules. These nodules trend towards a more benign appearance, but an underlying neoplastic process cannot be ruled out. Consider a fine needle aspirate of the liver +/- liver function test.

There is a rounded, slightly cystic structure visualized in the right cranial abdomen. The origin of this structure is unclear. This could be an atypical lymph node or could be originating from the pancreas, a portion of the liver, etc. It is likely too deep to aspirate so consider continued monitoring or a CT scan if more information is desired.

The vasculature to both the liver and spleen appears somewhat distended. This could be secondary to congestion and concurrent heart disease.

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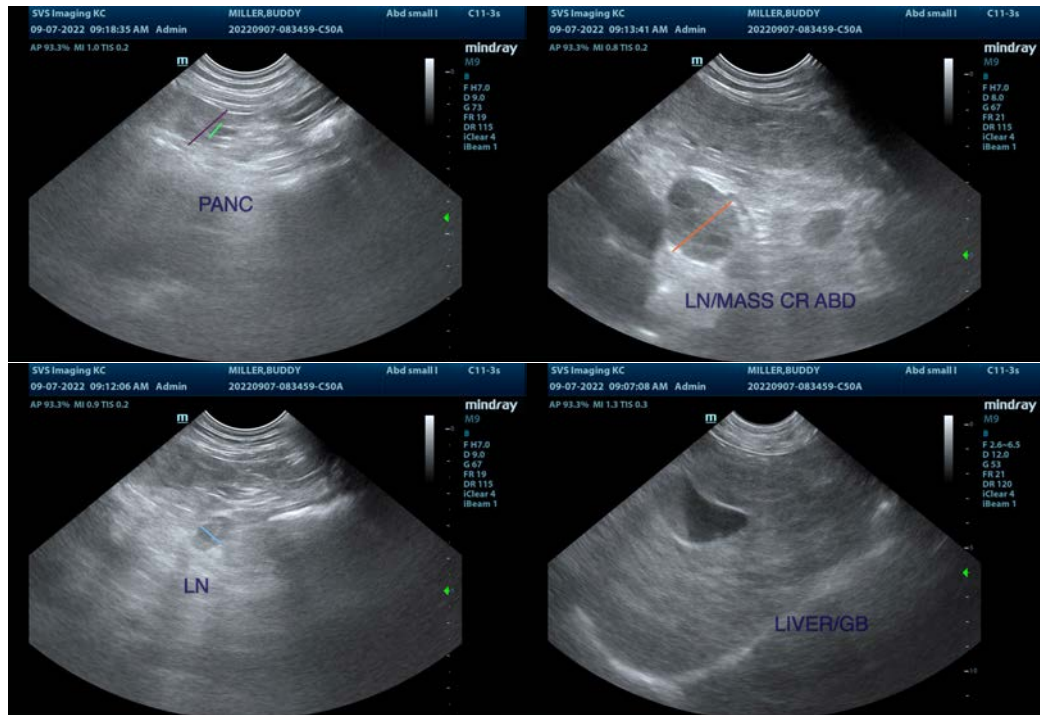
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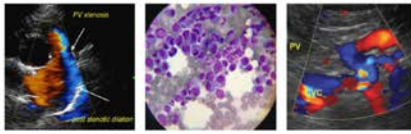
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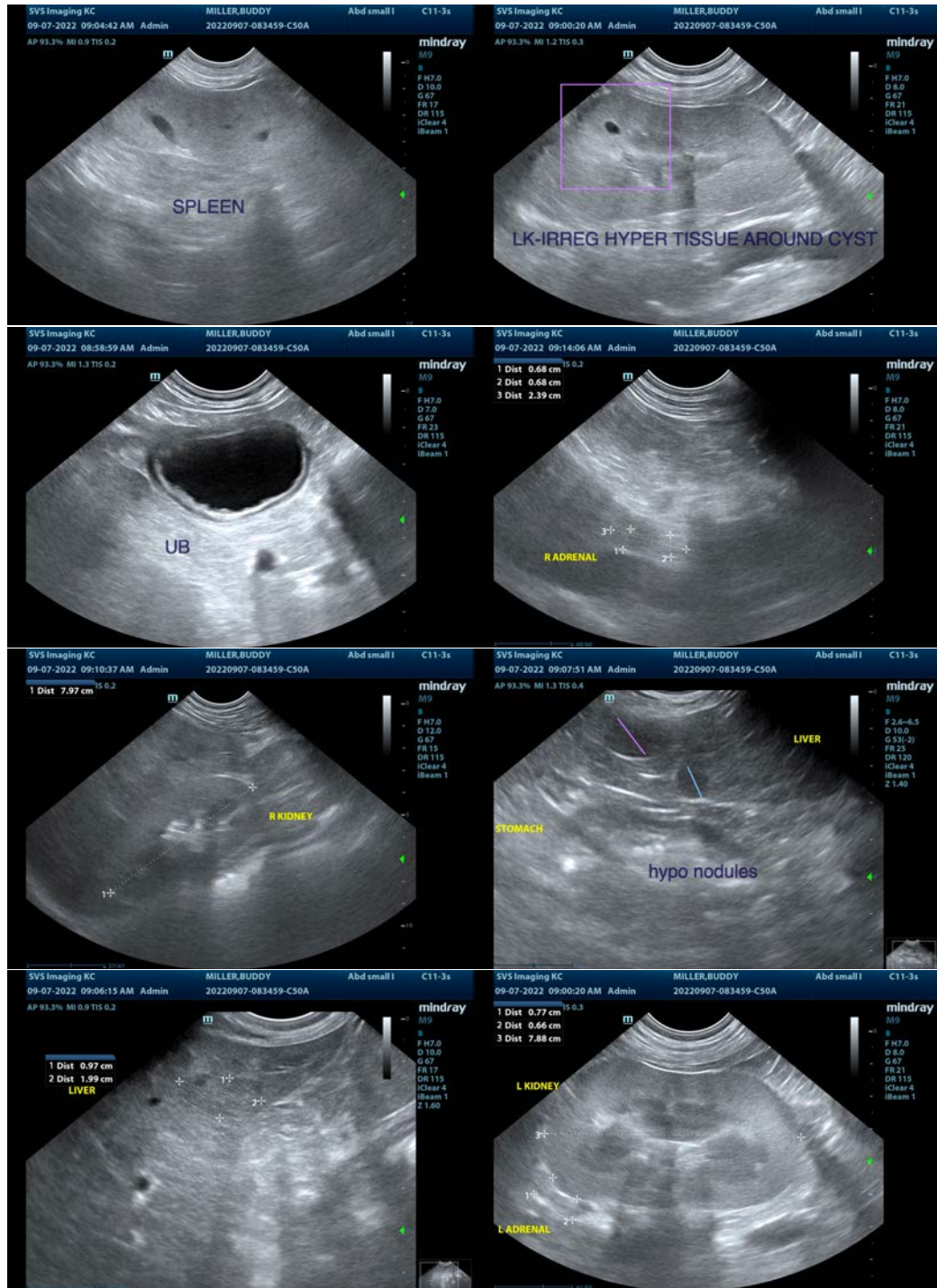
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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