

**PATIENT**

Buddy Dunn

SPECIES

Canine

BREED

Maltese

SEX

Neutered Male

AGE

13 Years

WEIGHT

11.3 Pounds

INTERPRETED BYKathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)**IMAGING
PERFORMED BY**

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Union Lake VH

INVOICE

38783

DATE

6/16/22

PRESENTING CLINICAL SIGNS

Losing weight since January 2022. Activity decreased, appetite decreased.

Abnormal PE/Chem/CBC/UA Results: Whole body radiographs taken. chest appears okay. There is severe hepatomegaly and possibly splenomegaly, stomach is displaced dorsally and intestines displaced caudally. There is also loss of detail. (Liver looked big in radiographs from January 2022) Bloodwork sent to the lab today, no results yet. History of elevated liver values.

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 visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (4.87 cm) with numerous peripheral cortical cysts visualized. Overall echogenicity is hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (4.59 cm) with numerous small cortical cysts visualized in addition to a large 1.0 cm cyst. Overall echogenicity is hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 0.45 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 0.73 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, but irregular. The spleen echotexture is heterogenous and mottled. The blood flow through the hilus and splenic parenchyma appears normal. There is an ill-defined hypoechoic lesion mid body measuring 0.70 cm. Additionally, the head of the spleen is irregular and has an ill-defined hyperechoic lesion.

Liver

The liver is large in size and irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The liver is extremely irregular with diffuse hypoechoic, discrete nodules visualized, which deform the hepatic margins. The left lobe of the liver appears particularly involved, and creates somewhat of a mass effect with surrounding inflamed mesentery. These lesions vary in size from approximately 0.5-2.0 cm.

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The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a mild amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

The stomach is moderately 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.

BREED

Maltese

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. Duodenum wall measured 0.42 cm. Jejunum wall measured 0.38 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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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.

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Pancreas

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

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Free Abdomen

There is a moderate amount of free abdominal fluid. No mesenteric lymphadenopathy is appreciated. The omentum is of increased echogenicity, particularly in the cranial abdomen around the liver.

INTERPRETED BY

Kathleen Sennello DVM,
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PRIMARY FINDINGS

- Large, heterogeneous liver with diffuse well-defined hypoechoic nodules – 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. The liver is very atypical and almost mass-like in some areas. Concern is high for a possible neoplastic process, although benign nodules are possible.
- Mottled, irregular spleen with hypo- and hyperechoic lesions – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Moderate free abdominal fluid – recommend fluid analysis and cytology.

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SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with numerous cortical cysts – The bilateral renal findings are consistent with age-related change.
- Prominent, mottled pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

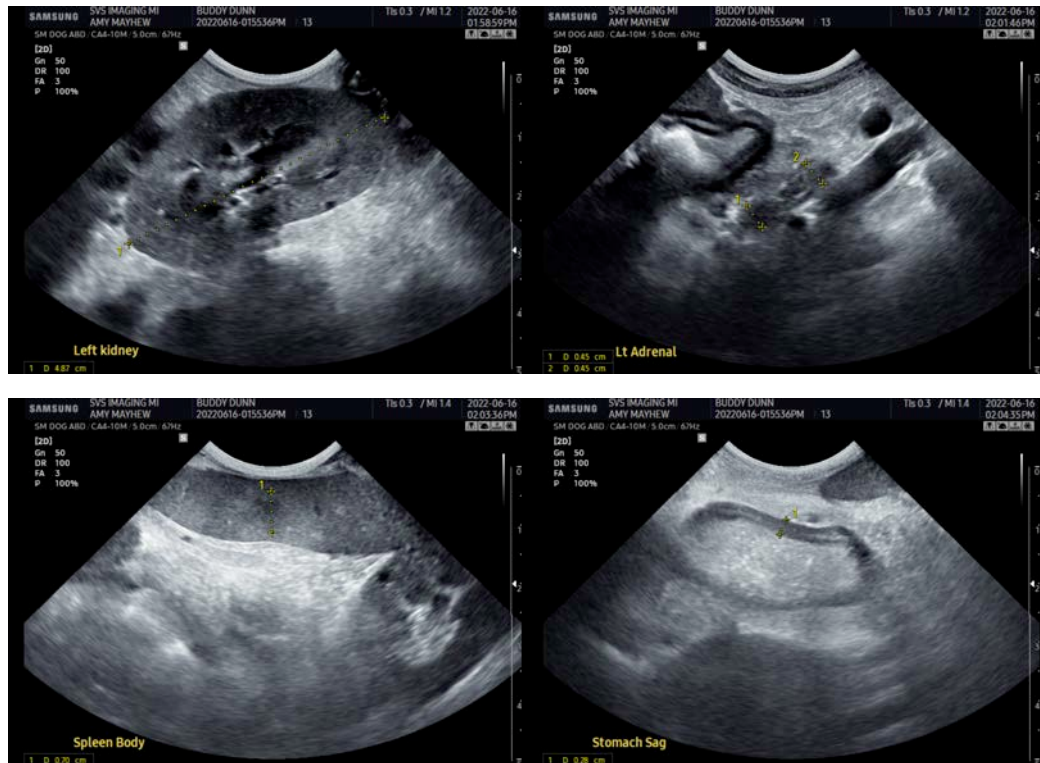
The most prominent abnormality on today's exam is the liver, which is very irregular with distinct hypoechoic nodules that deform the hepatic margins and create areas of liver that appear irregular, surrounded by hyperechoic mesentery and are almost mass-like. Some of the deeper areas of the liver appear less affected. Recommend a fine needle aspirate of one of the hypoechoic liver lesions. If this is a benign change, then you could consider continued monitoring or CT scan to further evaluate the scope and distribution of these nodules to determine if surgical resection is possible.

Additionally, the spleen is mottled and irregular. Recommend a fine needle aspirate of the spleen.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

The changes observed in the kidneys are consistent with chronic progressive renal disease. Recommend blood pressure evaluation, urinalysis, culture, and urine protein to creatinine ratio.

Hopefully lab work results will help to determine the cause for the fluid visualized. If liver enzymes are elevated, you could consider a liver function test. If albumin levels are low, consider liver function test, urine protein to creatinine ratio, and a GI panel to further evaluate the small intestine to try and determine the source.



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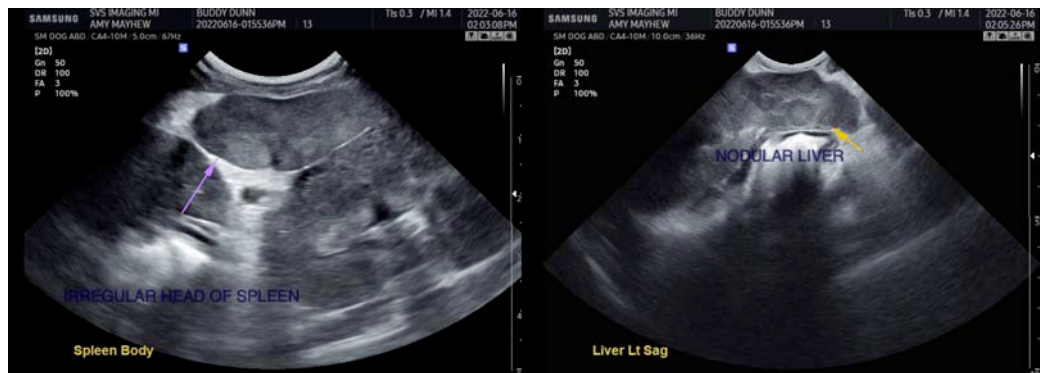
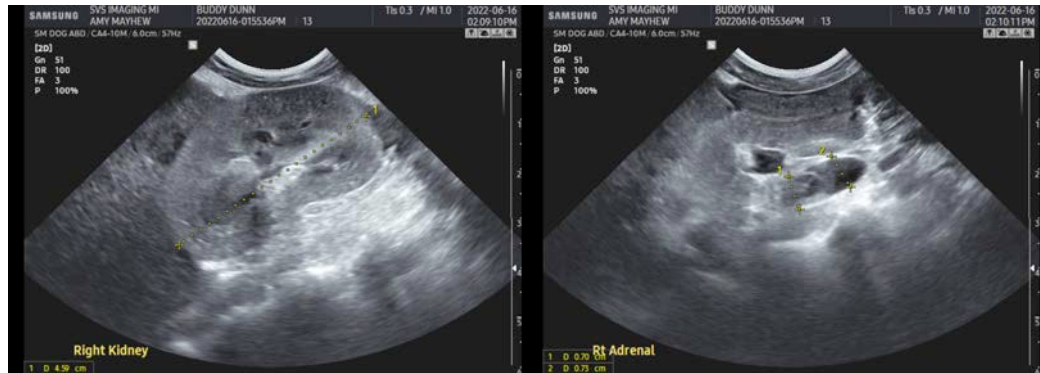
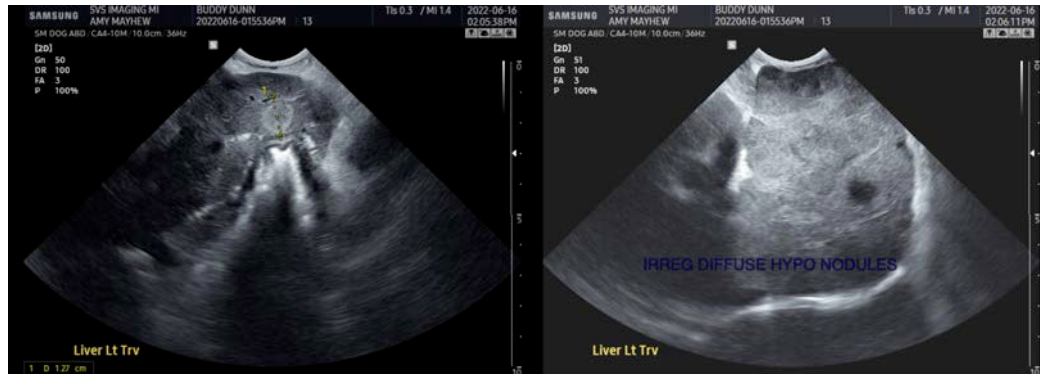
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EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

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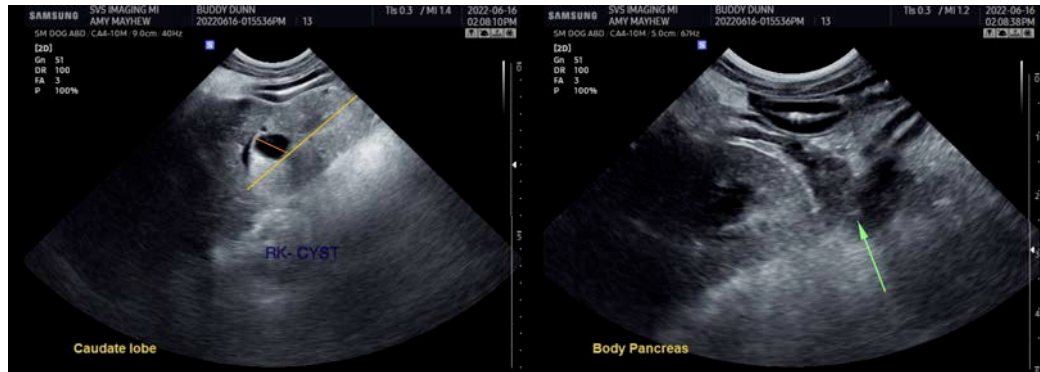
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com