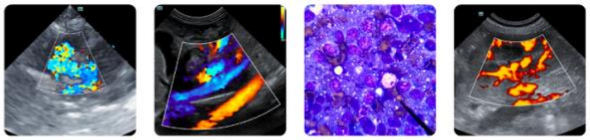


PATIENT

Rambo Johnson

SPECIES

Canine

BREED

Maltese

SEX

Neutered Male

AGE

10 Years

WEIGHT

6.4 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dallas Reynolds LVT

HOSPITAL NAME

Lone Mountain Animal Hospital

REFERRING VET

Dr. Lindsay Geiger

INVOICE

15011

DATE

04/09/26

PRESENTING CLINICAL SIGNS

Historic mild hepatomegaly and elevated ALP (1950), heart murmur. Acute onset vomiting and lethargy this AM. Free fluid in abdomen was sampled at time of ultrasound and was serosanguinous

Abnormal PE/Chem/CBC/UA Results: BW - ALT 100, ALP 988, HCT 32%

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 2.0 cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.64 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 (4.34 cm). Overall echogenicity is slightly hyperechoic with poor 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. Pinpoint cortical mineralizations were present most consistent with dystrophic mineralizations.

The right kidney has a normal shape and size (4.96 cm). Overall echogenicity is slightly hyperechoic with poor 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. Pinpoint cortical mineralizations were present most consistent with dystrophic mineralizations.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.51 cm at the cranial pole and 0.61 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.

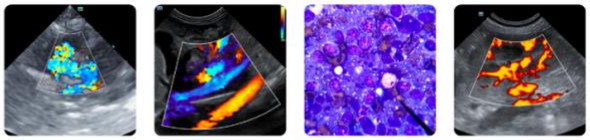
The right adrenal gland is normal in size measuring 0.67 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect. There is a mixed echogenicity, poorly defined nodule visualized towards the cranial aspect of the spleen measuring 0.98 cm by 0.86 cm.

Spleen

The spleen is subjectively normal/borderline plump (1.16 cm), echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal.

Liver

The liver is subjectively large in size with rounded margins. The parenchyma is hypoechoic and homogenous in echotexture. The visible portions of the vasculature and biliary tract appear normal.



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There are too numerous to count, variably sized hypoechoic nodules visualized throughout the hepatic parenchyma, most measure approximately between 0.75 cm and 1.25 cm. A prominent nodule measures 1.55 cm by 1.02 cm. Additionally, there is an extremely large mixed echogenicity hypoechoic cystic/cavitated mass effect, which appears to involve the mid caudal left region of the liver, measuring greater than 5.81 cm by 4.41 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7 cm 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.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Visualized peristalsis appears appropriate. The duodenum wall measured 0.35 cm wall width. The jejunum wall measured 0.32 cm wall width. There is mild mucosal speckling visualized associated with some sections of small intestine.

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 large volume of free abdominal fluid with no significant lymphadenopathy. The omentum is diffusely hyperechoic.

ULTRASONOGRAPHIC FINDINGS

- Mild age-related changes visualized associated with both kidneys.
- Small poorly defined mixed echogenicity nodule visualized in the spleen- There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large rounded hyperechoic heterogenous liver with too numerous to count ill-defined hypoechoic nodules and an extremely large mixed echogenicity cystic/cavitated mass lesion- Findings could be consistent with a vacuolar hepatopathy. Some of the hypoechoic nodules could be regenerative nodules, some could be metastatic lesions. The large mixed echogenicity nodule is concerning for neoplastic lesion, although a large benign hepatic mass cannot be ruled out.

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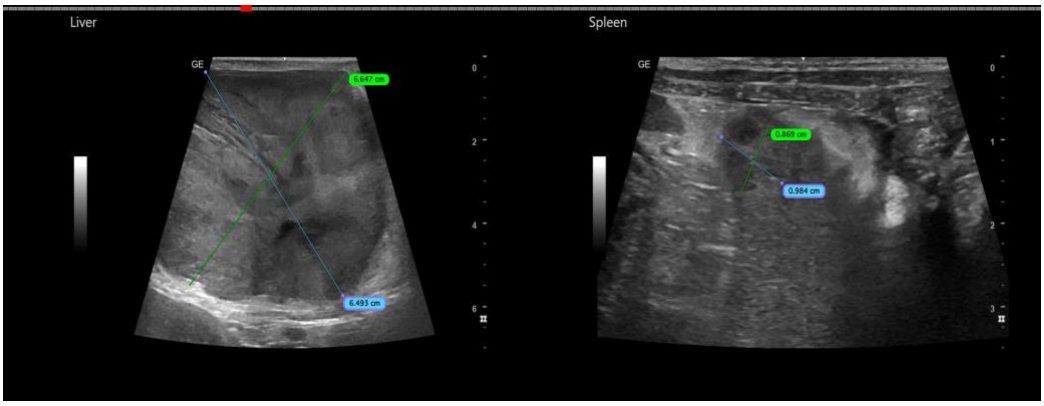
- Mildly thickened small intestine with mucosal speckling- Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.
- Large volume free abdominal fluid- This is likely either a neoplastic effusion or secondary to portal hypertension.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There's an extremely large mixed echogenicity cystic/cavitated mass effect in the cranial abdomen associated with the liver. The remaining liver is large and hyperechoic with hypoechoic nodules. I suspect there's been a chronic vacuolar hepatopathy, but it's unknown if the hypoechoic nodules represent regenerative nodules, metastatic lesions, etc. This mass lesion is accompanied by a large volume of free abdominal fluid. If surgical resection would be considered, recommended a contrast CT scan to further evaluate and assess surgical options. Prior to surgery, consider fluid analysis and cytology +/- fine needle aspirate of a representative hypoechoic liver nodule looking for evidence of diffuse metastatic disease prior to pursuing an aggressive surgical procedure.

There's a small poorly defined mixed echogenicity lesion in the spleen. The significance of this is uncertain. Continued monitoring or a fine needle aspirate could be considered.

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



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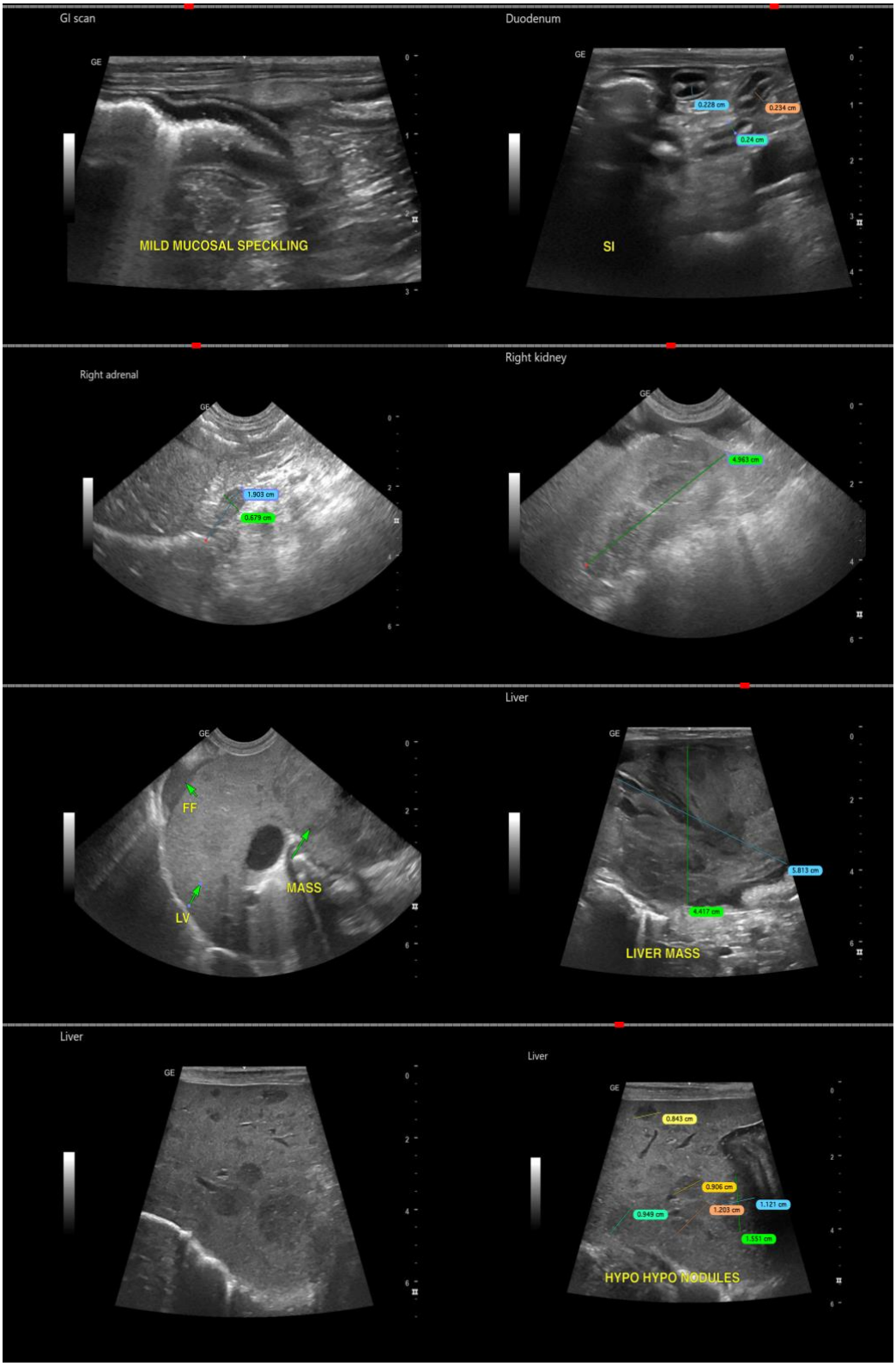

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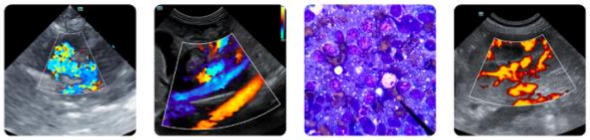

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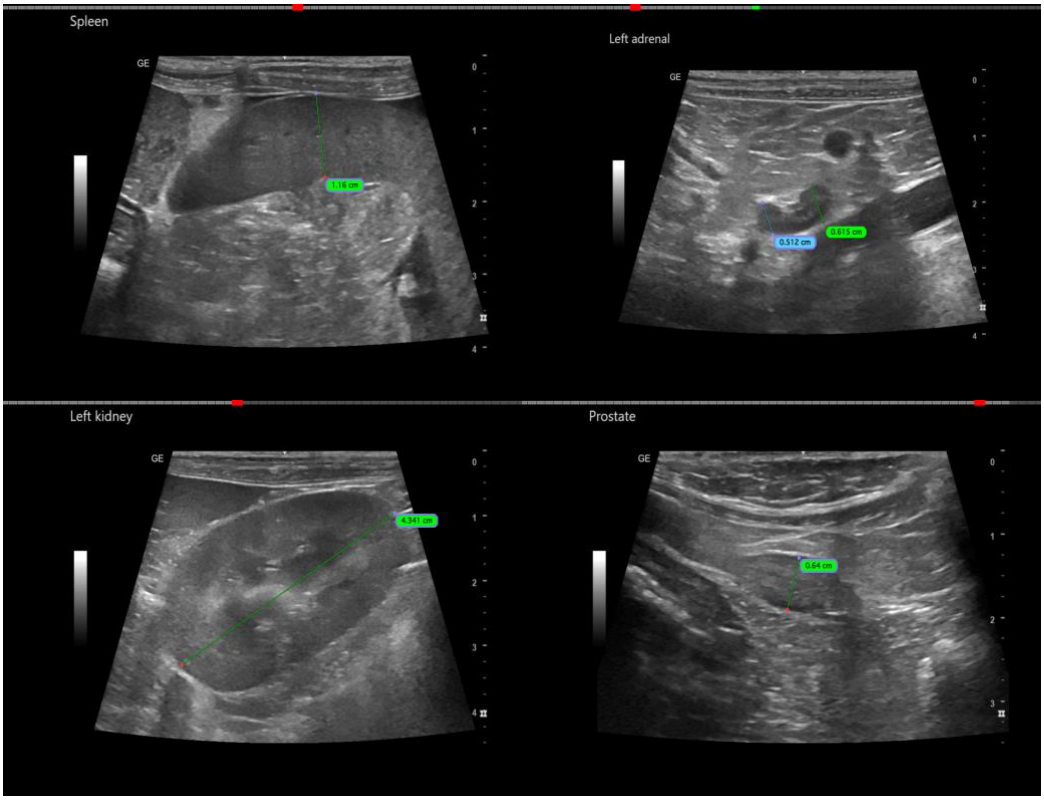

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

info@sonopath.com