



PATIENT

Imi Muckian 6146B

SPECIES

Canine

BREED

Goldendoodle

SEX

Spayed Female

AGE

12 Years 6 Months

WEIGHT

45.9 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Tracy Lasarge

HOSPITAL NAME

SVS Imaging NW

REFERRING VET

Dr. Calhoun- Madison
VS

INVOICE

20322

DATE

1/2/23

PRESENTING CLINICAL SIGNS

History: Presented to primary care vet with lethargy and vomiting. hx. chronic elevated liver enzymes

Abnormal PE/Chem/CBC/UA Results: SDMA: 74 CREA: 4.1 BUN: 122 ALT: 339 ALKP: 1143 TBIL: 1.7 WBC: 56.01

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized, and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some mild age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 8.25 cm. The left kidney measured 7.37 cm.

Adrenal Glands

The **left adrenal gland** was mildly enlarged in size at the cranial pole with normal shape and position and acceptable echogenicity for this age group and breed. Some heterogeneity was noted within the adrenal parenchyma without concerning capsular distortion. These changes are likely age related but should be monitored by sonogram should the patient be suspected of having adrenal disease. The left adrenal gland measured 1.23 cm at the cranial pole and 0.91 cm at the caudal pole.

The **right adrenal gland** was enlarged, heterogenous and irregular, creating a mass effect, measuring 4.4 cm x 2.8 cm. The right adrenal was expansive, yet the vena cava did not appear to have any invasive pathology.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

The **liver** revealed a 10 cm x 6 cm mixed hypoechoic cystic complex mass, deriving from the left liver, appears pedunculated by a bridge of approximately 3.0 cm. The left cranial liver revealed a hyperechoic nondisruptive nodule, measuring 2.67 cm x 1.8 cm. The liver mass appears resectable with left lobectomy. The other heterogenous changes do not meet neoplastic criteria. The remainder of the liver revealed minor remodeling and slight increased portal markings. The gallbladder and common bile duct were unremarkable.

Gastrointestinal



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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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ULTRASONOGRAPHIC FINDINGS

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- Left liver mass – biliary carcinoma versus hepatocellular carcinoma. There is a possibility of histopathologically benign lesion with necrosis, yet the mass is also peripherally inflamed.
- Right adrenal mass, consistent with adenoma. Adenocarcinoma or pheochromocytoma are possible.
- Mildly enlarged left adrenal gland with age-related changes
- Age-related renal changes

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The azotemia is concerning for concurrent disease, as the kidneys do not appear end stage and appear to have only mild degenerative changes. I recommend serial blood pressures in this patient. If hypertension is an issue, then urine catecholamine is warranted to assess for pheochromocytoma of the right adrenal. Medical management to correct the azotemia is indicated. CT evaluation for surgical planning or direct left lobectomy is warranted. Inspection and biopsies of the right liver could also be considered, as I cannot completely rule out metastasis to the remainder of the liver yet there is no obvious evidence of neoplastic criteria within the remainder of the liver. Concurrent complicating factors, such as Leptospirosis should also be considered given the azotemia. The end target from a surgical perspective would be right adrenalectomy and left liver lobectomy. Prognosis is guarded. If the patient appears cushingoid, then right adrenal dependent Cushings is also possible.

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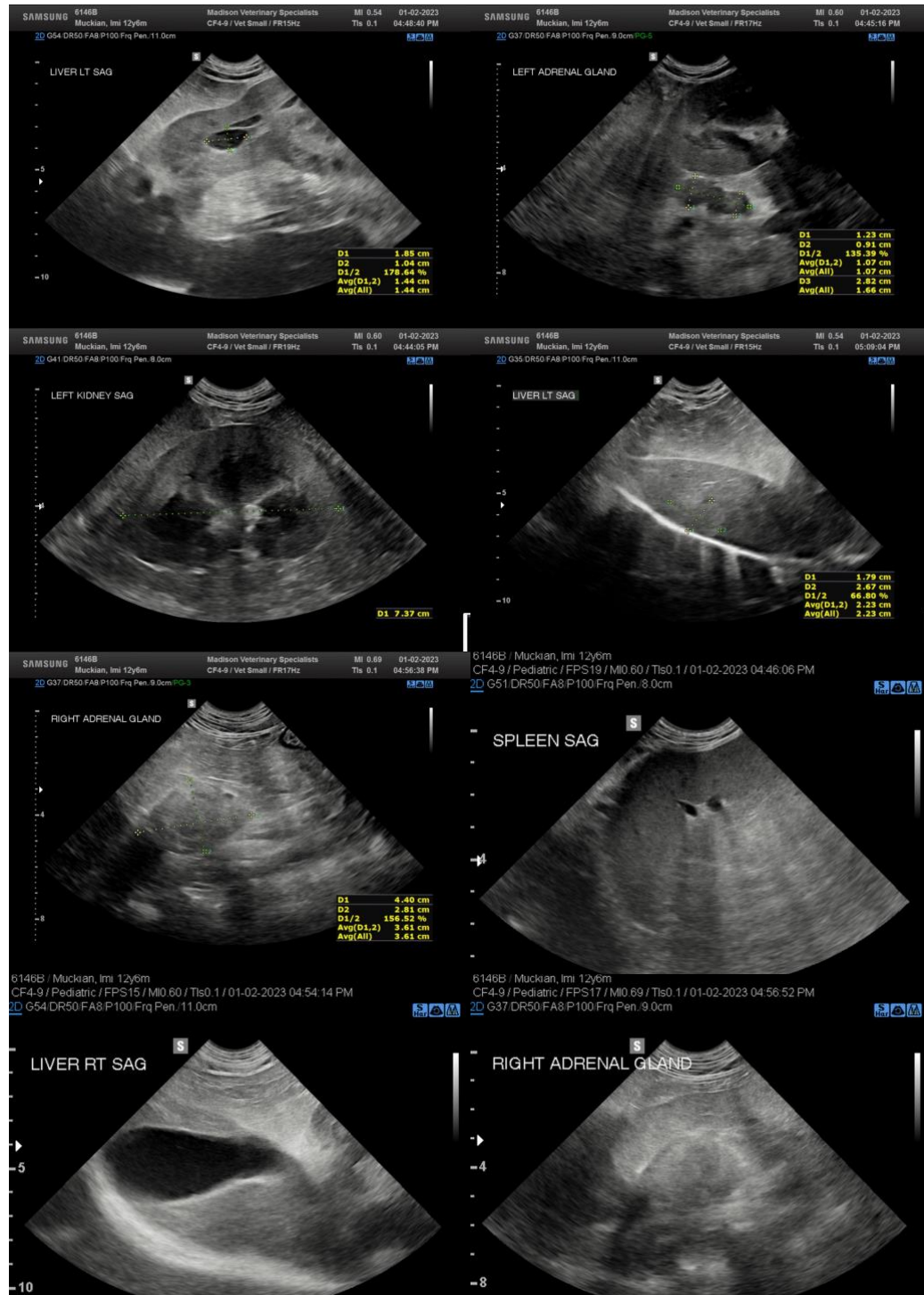
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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