



**PATIENT**

Rex Lamb

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Neutered Male

**AGE**

12 Years 4 Months

**WEIGHT**

93.6 lbs

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Chloe Lowe, CVT

**HOSPITAL NAME**

Easton Animal Hospital

**REFERRING VET**

Dr. Craig

**INVOICE**

75437

**DATE**

5/26/26

**PRESENTING CLINICAL SIGNS**

Liver mass; painful abdomen on palpation. Recent history of seizures that started in April. Now painful in abdomen, panting. "doggy aspirin" over-the-counter given by Owner past three days.

Abnormal PE/Chem/CBC/UA Results: Alk Phos high, chol high, retic HGB low

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is adequately 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 area of the prostate is examined without evident prostatic pathology.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. Left kidney measures 8.3 cm. Right kidney measures 8.3 cm. Multiple cortical cysts are noted bilaterally.

**Adrenal Glands**

Adrenal glands are mildly plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. Several pinpoint mineral densities are noted in the left adrenal gland. Left measures 0.90 cm at the cranial pole and 0.84 cm. Right measures 0.20 cm at the cranial pole and 0.88 cm at the caudal pole.

**Spleen**

Spleen is subjectively large in size (2.8 cm thick at the hilus) with normal smooth margins. Parenchyma is normal in echogenicity with a diffusely coarse/heterogenous echotexture. Additionally, several discrete homogeneous, hyperechoic densities are noted in the area of the hilus. Splenic vasculature appears normal.

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is moderately heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Additionally, an approximately 2.5 cm x 3.0 cm anechoic suspect cyst is noted in the right caudal liver. Visible vasculature and biliary tree appear normal without distension or congestion

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. An approximately 1.7 cm shadowing, non-visibly obstructive mineral density is noted within the gallbladder. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.



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**Gastrointestinal**

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with a small to moderate amount of echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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

**Pancreas**

The pancreas that is observed appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**Free Abdomen**

There is a very trace amount of anechoic free fluid adjacent to the spleen.

There is no apparent pathologic lymphadenopathy noted in these images.

The visible heart base (RA) and pericardium are unremarkable without obvious pathology noted in these images at this time. If cardiac function evaluation is desired, a full echocardiogram is recommended.

**PRIMARY FINDINGS**

- Moderately heterogenous liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia. Additionally, a suspect incidental benign cyst is noted, although hematoma versus other can't be ruled out.
- Mild gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili. \*A non-visibly obstructive cholelith is visible.
- Coarse splenomegaly – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.
- Bilateral adrenomegaly – In a patient diagnosed with hyperadrenocorticism, this finding is most consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism.



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This finding can also be seen with stress and/or normal patient variant. Interpret in combination with clinical signs of hyperadrenocorticism and/or other adrenal disease.

- The trace free fluid is of unknown origin. Differentials (unless already ruled out) could include increased hydrostatic pressure (cardiac disease and/or vascular or lymph blockage), decreased oncotic pressure (low albumin), vasculitis, paraneoplastic fluid, rupture/leakage of/from an organ (GI, GB, UB, other), blood (hemoabdomen), other.

**SECONDARY FINDINGS**

- Moderate age related kidney changes with bilateral cortical cysts.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

There is not a definitive discrete liver mass noted in these images at this time. However, given the diffuse changes in the liver and spleen, fine needle aspirates of both organs could be considered if patient's coagulation status is appropriate.

A blood pressure is also recommended if not recently evaluated.

Urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

There is not an intraabdominal ultrasonographically visible reason for patient's reported abdominal pain noted in these images at this time but given patient's reported history of "doggy aspirin", empirical antacid or microulceration therapy could be considered. Additionally, further evaluation for possible orthopedic and/or neurologic/spinal pain being referred as abdominal pain could also be considered.

Patient's reported seizures may or may not be related to the changes described above, but if an underlying hepatopathy is suspected and patient's total bilirubin is not increased, bile acids could be considered. Otherwise, advanced neurologic workup including consultation with a veterinary neurologist, advanced imaging, etc. may be indicated if another underlying metabolic disease such as a vascular event, etc. is not diagnosed.





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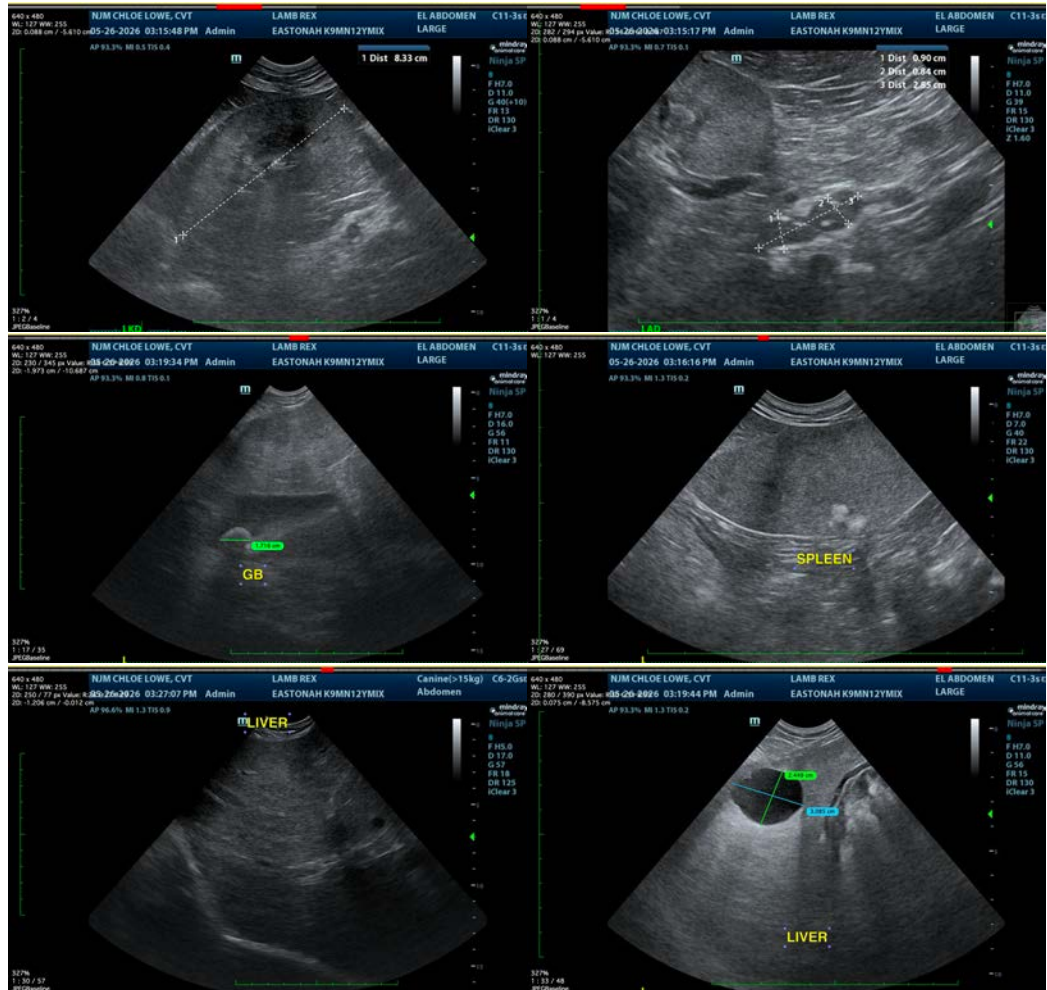
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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**  
 info@sonopath.com