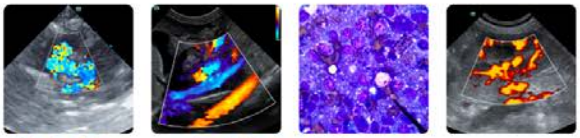

PATIENT

Moonshine King

SPECIES

Canine

BREED

Lab

SEX

Spayed Female

AGE

6 Years 6 Months

WEIGHT

57.4 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Pet Care Clinic of the High Country

REFERRING VET

Dr. Sturgill

INVOICE

72024

DATE

1/7/26

PRESENTING CLINICAL SIGNS

P presented for ultrasound due to increasing ALT, otherwise doing well, no concerns. Dental cleaning recommended. Please comment on anesthesia protocol.

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 right kidney is normal is size (6.51 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal is size (6.18 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. Left measures 0.39 cm at the cranial pole and 0.43 cm at the caudal pole. Right measures 0.45 cm at the cranial pole and 0.45 cm at the caudal pole.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with 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.

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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 no visible free peritoneal effusion noted in these images.

There is no apparent pathologic lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Flat adrenal glands – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.

- Bilateral medullary rim sign - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

Differentials for a primary hepatocellular injury liver enzyme pattern (increased ALT) depend partially on the level of increase. Mild increases (less than 2 times normal) are often a “reactive hepatopathy” or the liver’s response to an insult elsewhere in the body including, but not limited to, pancreatitis, gastroenteritis, parasitic disease, dental disease, vacuolar or endocrine hepatopathy from diabetes mellitus or hyperadrenocorticism (steroid-induced), hypoadrenocorticism, certain drugs (e.g. phenobarbital, corticosteroids, azathioprine, etc.), and muscle ALT (more likely if AST and CK concurrently increased).

It is a good indicator of active liver damage (cell membrane disruption, cellular necrosis), however, if the value is increased by at least 3-4 times normal. Differentials include infectious disease, including Leptospirosis, inflammatory disease (ie. active hepatitis, copper, other), toxic insult as well as infiltrative neoplasia.

ALT levels vary in cases of vascular anomalies such as microvascular dysplasia and portosystemic shunts (PSS), but are often less significantly increased.

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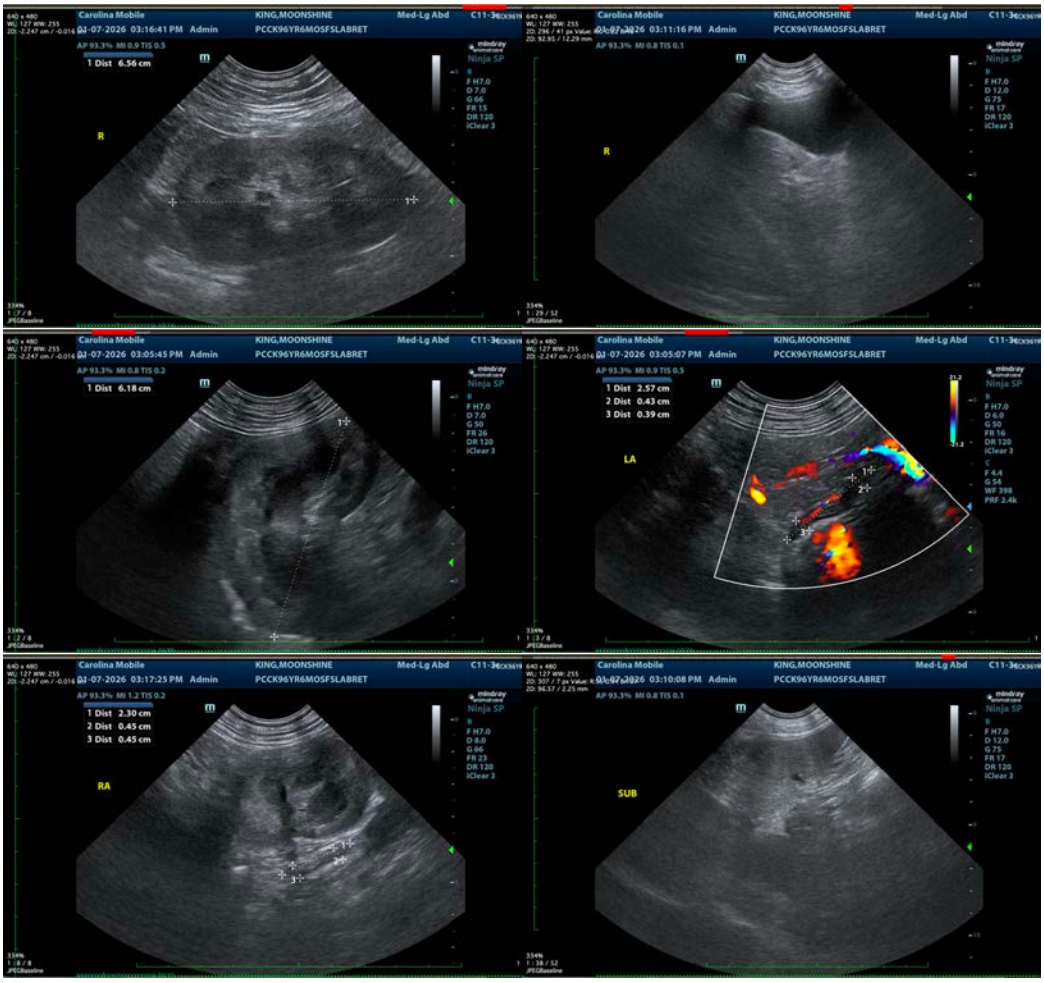
- Testing for Leptospirosis could be considered.
- Bile acids could be considered, if tbili is not increased.
- An empirical course of antibiotics and empirical hepatic nutraceuticals may be tried, with monitoring of ALT for improvement. If improvement is noted, antibiotics should be continued until liver enzymes either normalize or plateau (recheck every 2-3 weeks); however, if improvement is not noted and/or enzyme increase progresses, antibiotics should not be continued long term and liver tissue sampling is recommended.
- FNA of the liver can be performed to assess inflammatory cell type, rule in/out round cell neoplasia, etc. (if patient's coagulation status is appropriate).
- If round cell neoplasia is not diagnosed, a liver biopsy (including copper level assessment) may be required to definitively diagnose the underlying hepatopathy.

Anesthesia risks as well as timing and/or protocol recommendations are largely dependent on results of full general metabolic assessment, results of above, etc.



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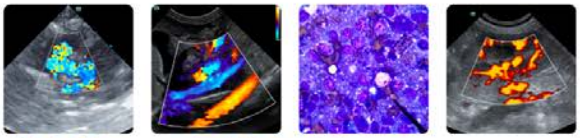

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

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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