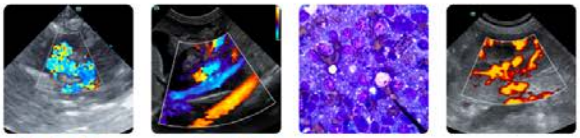


PATIENT

Prince Rouse

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.6 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Animal Clinic of Madison-Mayodan

REFERRING VET

Dr. McKinlay

INVOICE

74075

DATE

3/31/26

PRESENTING CLINICAL SIGNS

P presented for US due to elevation in Liver values. ALT 400's ALKP 1,000.

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.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

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 4.5 cm. Right kidney measures 5.09 cm.

Adrenal Glands

The right adrenal gland is normal in size (0.60 cm at cranial pole and 0.60 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.40 cm at cranial pole and 0.50 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

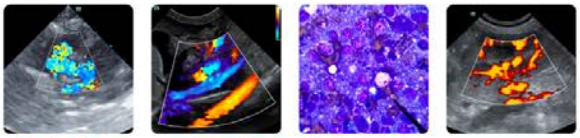
Liver

Liver is subjectively enlarged with mildly irregular margins. Diffusely, the parenchyma is moderately heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Focally, adjacent to the gallbladder, is a subtle 1.2 cm x 0.90 cm homogeneous, hyperechoic nodule. 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. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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.



PATIENT

Prince Rouse

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.6 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Animal Clinic of Madison-Mayodan

REFERRING VET

Dr. McKinlay

INVOICE

74075

DATE

3/31/26

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

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

Free Abdomen

There is no visible free peritoneal effusion noted in these images.

Medial iliac lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

PRIMARY FINDINGS

- Diffusely 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.

- Focal hyperechoic liver nodule adjacent to the gallbladder – Differentials for a discrete hyperechoic liver nodule(s) include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipomas, etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively 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.

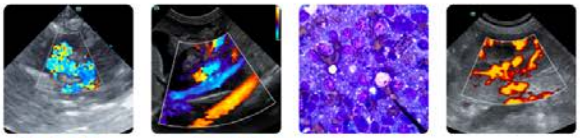
- Chronic low-grade smoldering pancreatitis can't be ruled out and should be suspected in the face of appropriate clinical signs.

- Mildly reactive medial iliac lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

SECONDARY FINDINGS

- Hyperechoic splenic nodules – most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

- Mild to moderate age related kidney changes.



SonoPath www.carolinavetmobile.com
info@carolinavetmobile.com 800.808.5948

PATIENT

Prince Rouse

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.6 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Animal Clinic of Madison-Mayodan

REFERRING VET

Dr. McKinlay

INVOICE

74075

DATE

3/31/26

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

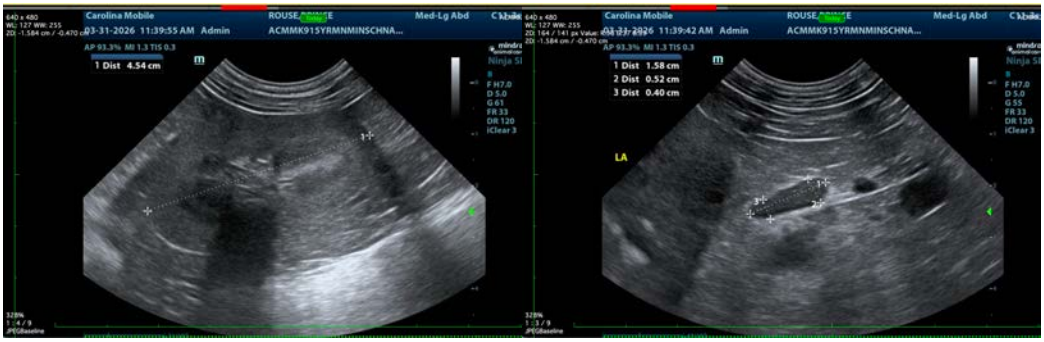
Differentials for a primary hepatocellular injury liver enzyme pattern (increased ALT) depend partially on the level of increase. Mild increases (less than 2 times normal) are often a "reactive hepatopathy" or the liver's response to an insult elsewhere in the body including, but not limited to, pancreatitis, 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.

- 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.

While the appearance of the liver trends largely toward benign, especially given the more focal nodule in the mid liver, additionally 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.



PATIENT

Prince Rouse

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.6 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Animal Clinic of Madison-Mayodan

REFERRING VET

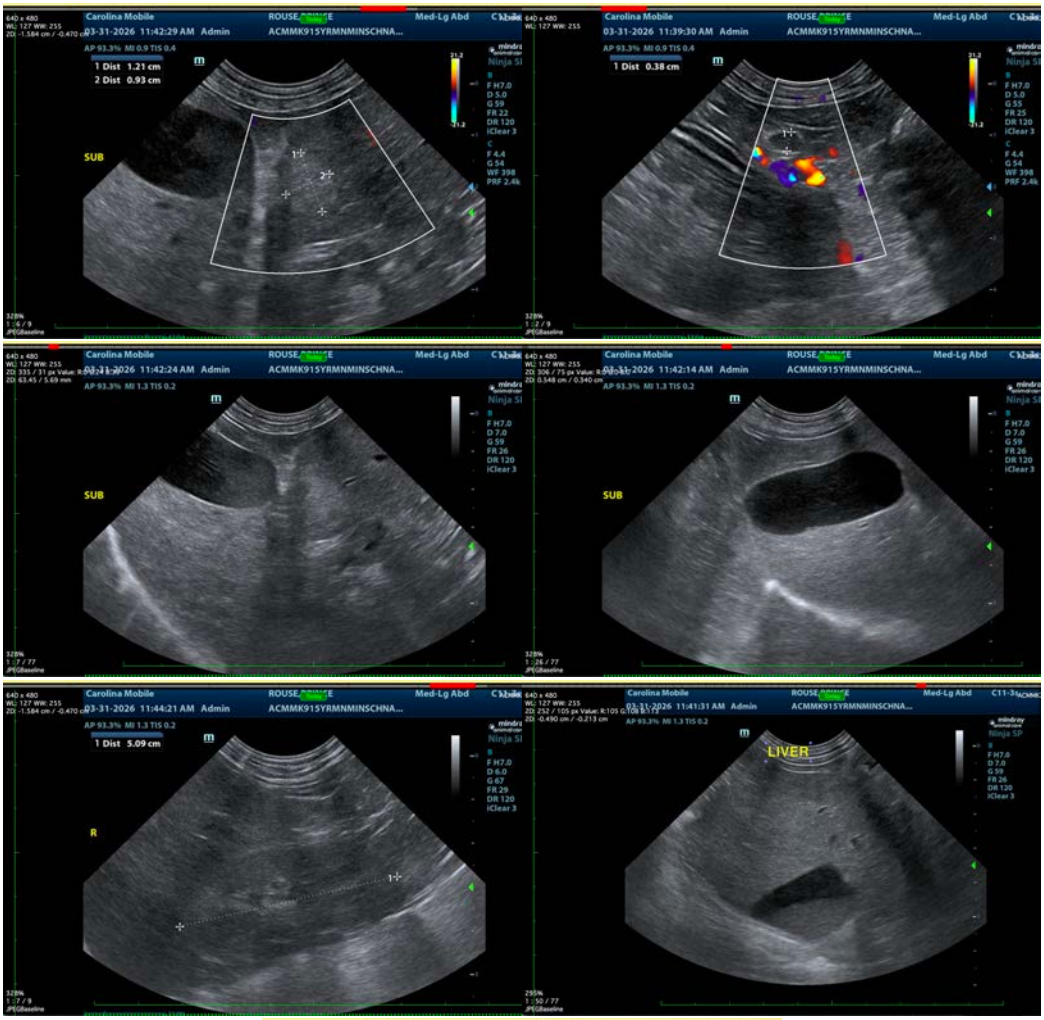
Dr. McKinlay

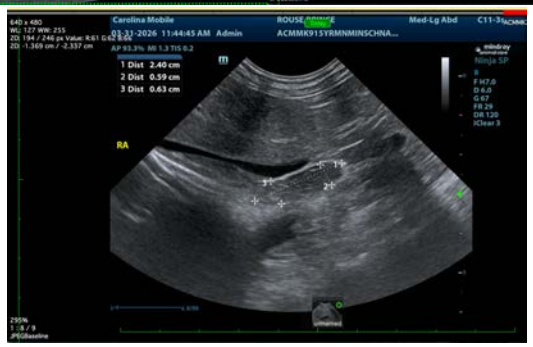
INVOICE

74075

DATE

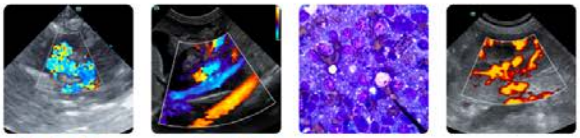
3/31/26





Carolina Veterinary Mobile
FUELED BY SONOPATH VETERINARY ULTRASOUND

SonoPath www.carolinavetmobile.com
info@carolinavetmobile.com 800.808.5948



Clinical Sonography & Telecytology
Educational Teleconsultation Services™

PATIENT

Prince Rouse

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.6 lbs

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Animal Clinic of Madison-Mayodan

REFERRING VET

Dr. McKinlay

INVOICE

74075

DATE

3/31/26

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