



PATIENT

Roscoe Rudnick

SPECIES

Canine

BREED

Mixed

SEX

MN

AGE

12 years

WEIGHT

26 lbs

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Julia Bakker

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Dr. Arthur Newman

INVOICE

11646

DATE

4/8/2026

PRESENTING CLINICAL SIGNS

History of taking denamarin for liver enzyme elevations. ALT 123, Chol 454, ALP 665.

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 5.46 cm, and the right kidney measures 5.29 cm.

Adrenal Glands

The right adrenal gland is normal in size (1.1 cm at cranial pole and 0.7 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.49 cm at cranial pole and 0.7 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

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

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is moderately heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion. Additionally, note an approximately 1.2 cm in diameter anechoic cyst is noted mid liver.

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.

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 mildly distended with



PATIENT

Roscoe Rudnick

SPECIES

Canine

BREED

Mixed

SEX

MN

AGE

12 years

WEIGHT

26 lbs

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Julia Bakker

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Dr. Arthur Newman

INVOICE

11646

DATE

4/8/2026

echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

The visible colon is normal, but the lumen is diffusely mildly distended with soft stool and fluid.

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.

PRIMARY FINDINGS

- Moderately heterogenous liver with a suspect incidental additional hepatic cyst – 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.
- Moderate 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.

SECONDARY FINDINGS

- Moderate age-related kidney changes.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Differentials for a primary cholestatic liver enzyme pattern (increased ALP) are vast and non-specific. Differentials include, but are not limited to, benign nodular hyperplasia which occurs in 70% of older dogs and often does not result in an abnormal ultrasound, reactive or idiopathic/vacuolar hepatopathy, cholestasis and/or hyperadrenocorticism as well as many chronic non-hepatobiliary diseases such as chronic infections/inflammation from dental disease, IBD, neoplasia, hyperlipidemia, hypothyroidism, chronic pancreatitis, chronic stress, etc.

- Adrenocortical testing such as a low dose dexamethasone suppression test could be considered if clinical signs of hyperadrenocorticism are present.
- Given the gallbladder debris noted above, empirical hepatic nutraceuticals including ursodiol could be considered while monitoring liver enzymes for improvement.



PATIENT

Roscoe Rudnick

SPECIES

Canine

BREED

Mixed

SEX

MN

AGE

12 years

WEIGHT

26 lbs

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Julia Bakker

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Dr. Arthur Newman

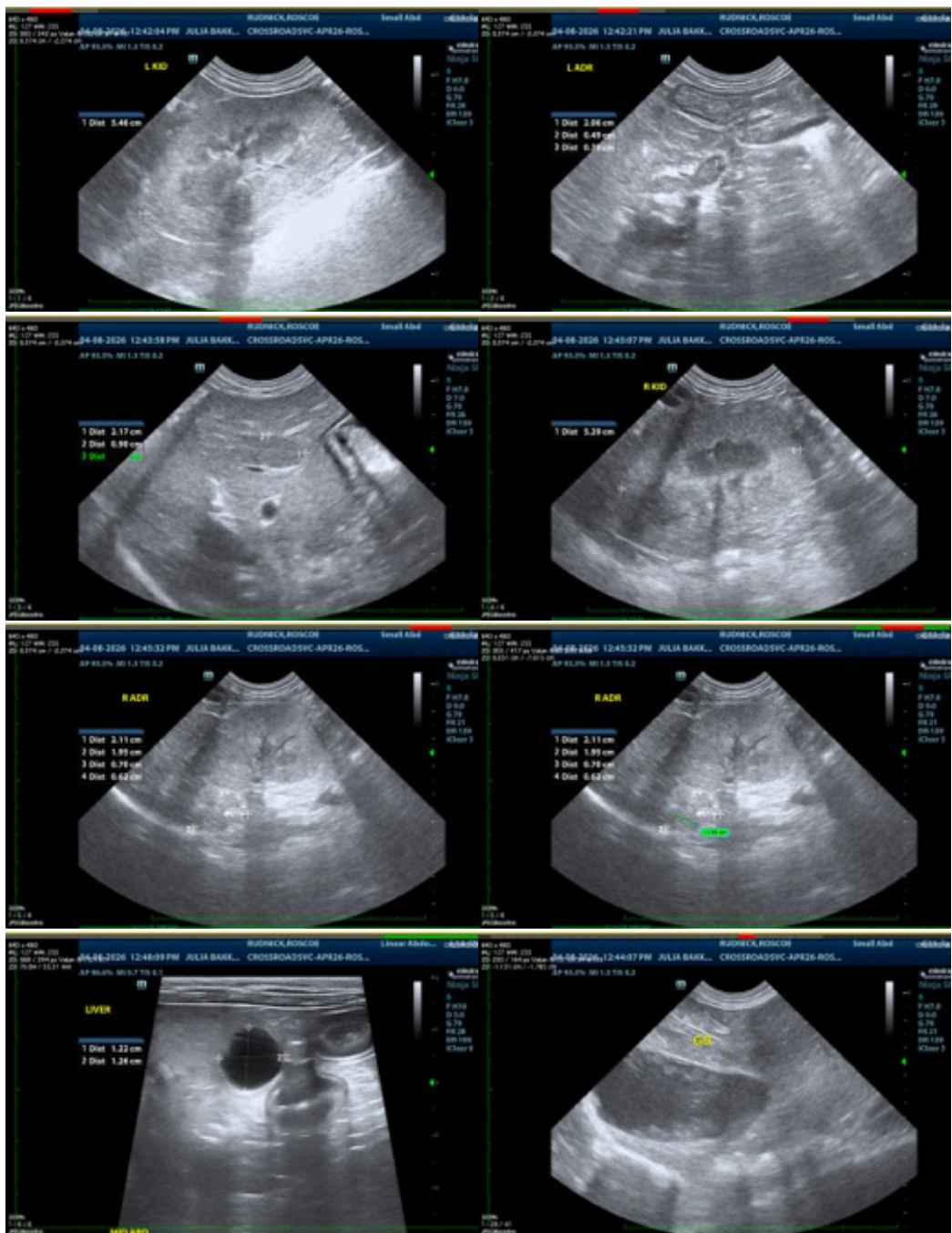
INVOICE

11646

DATE

4/8/2026

- Given the degree of heterogeneity, liver sampling could also be considered beginning with a fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate.
- Otherwise, recommendations include addressing any other concurrent disease and monitoring. If values are progressive, recheck imaging is recommended.



The information and recommendations provided are based on the images presented by the referring



PATIENT

Roscoe Rudnick

SPECIES

Canine

BREED

Mixed

SEX

MN

AGE

12 years

WEIGHT

26 lbs

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Julia Bakker

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Dr. Arthur Newman

INVOICE

11646

DATE

4/8/2026

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