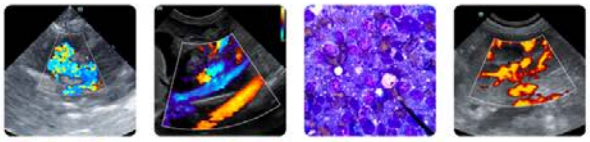


PATIENT

Kali Arroyo

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Spayed Female

AGE

13 Years

WEIGHT

11.6 lbs

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Gabriel Ferrer, DVM

HOSPITAL NAME

Pulse: Pet Ultrasound

REFERRING VET

Dr. Mario Roman

INVOICE

74093

DATE

3/31/26

PRESENTING CLINICAL SIGNS

Px presented as a referral due to Hx of elevated liver enzymes. rDVM reports that liver supplements have not helped lower hepatic enzyme values.

Abnormal PE/Chem/CBC/UA Results: Bloodwork attached below for your reference

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly to moderately distended with anechoic urine. In some views of the urinary bladder it appears slightly thickened and irregular, measuring at 0.30 cm in the apical region. The region of the trigone, ureteral papillae and proximal urethra appear free of any mass lesions or calculi.

The left kidney has a normal shape and size (4.18 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.24 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.42 cm at the cranial pole and 0.55 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.52 cm at the cranial pole and 0.41 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

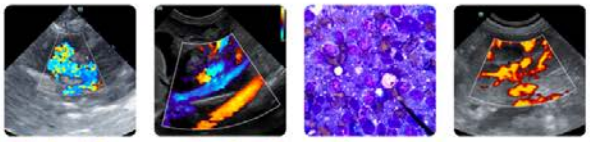
Spleen

The spleen is subjectively normal in size (1.35 cm), echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a poorly defined hyperechoic foci within the parenchyma most consistent with a benign myelolipoma. Recommend continued monitoring.

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. There is some hyperechoic shadowing foci visualized within the gallbladder, most consistent with small choleliths. Examples measure 0.34 cm and 0.39 cm. The cystic and common bile ducts are normal/not visible.



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Gastrointestinal

The stomach contains minimal luminal contents. The gastric wall appears slightly prominent in some areas with a prominent muscularis layer, measuring at 0.46 cm. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. There are occasional hyperechoic foci associated with the muscularis layer, possibly consistent with fibrosis, mineralization, etc.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.47 cm. Jejunum wall measures 0.35 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is mildly mottled in the right limb. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is no significant lymphadenopathy. The omentum is of normal echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Mildly thickened/irregular apical wall of the urinary bladder – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Age related changes visualized associated with both kidneys.
- Pancreatic changes most consistent with chronic pancreatic remodeling.
- Large, heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Moderate gallbladder debris with hyperechoic shadowing mineralizations/choleliths – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Prominent muscularis layer of the gastric wall – In the absence of gastrointestinal symptoms, the significance is uncertain. Mild gastritis could have this appearance.

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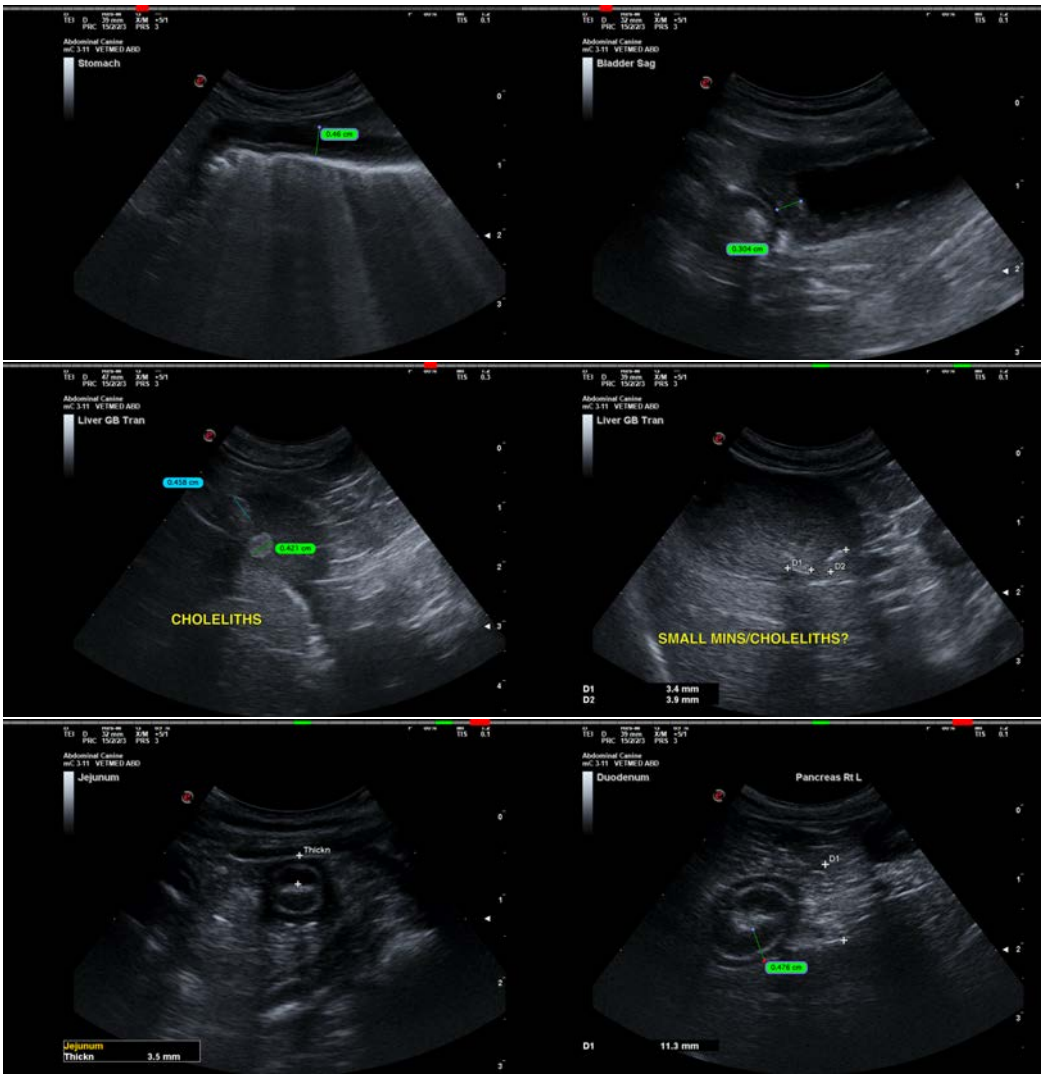
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is large and heterogeneous. This is a non-specific finding, very possibly consistent with a vacuolar hepatopathy. If a more significant hepatopathy is of concern, consider a liver function test and a fine needle aspirate of the liver. There is a moderate amount of debris visualized in the gallbladder and some shadowing mineralization/choleliths. No overt inflammation is noted, but mild cholecystitis/cholangiohepatitis cannot be ruled out. Consider starting Ursodiol therapy +/- a course of antibiotics and continued monitoring of the liver and gallbladder.

Both kidneys have changes consistent with chronic age related renal disease. Recommend a blood pressure, urinalysis, culture, +/- urine protein to creatinine ratio as a baseline.



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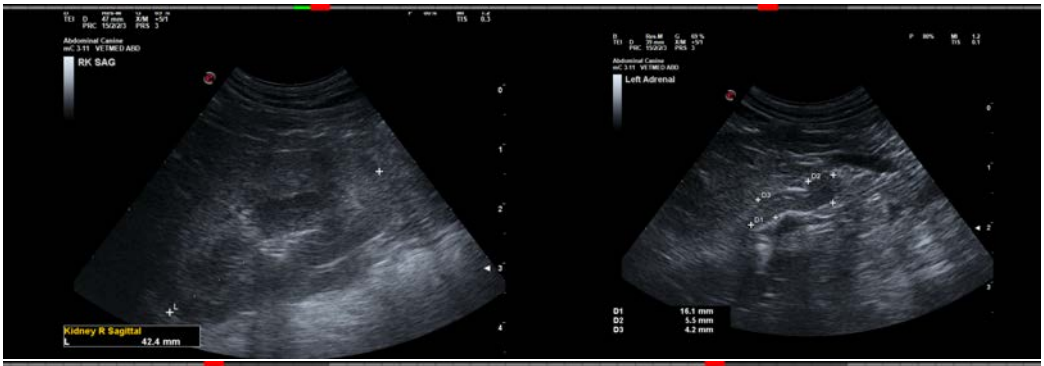

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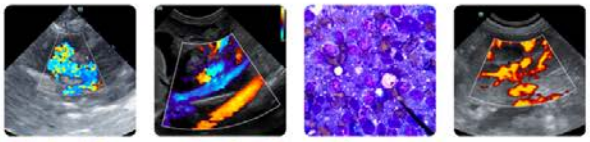

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

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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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

info@sonopath.com