



DATE PRESENTING CLINICAL SIGNS

2/9/26 Patient History: 11/2024: No murmur. 5/2025: grade 3-4/6 left and right systolic murmur. 11/2025: grade 4/6 murmur PMI left systolic, no arrhythmia, PSS. Eupneic, lungs auscult clear. Chronic Elevation of ALP

PATIENT

Lucy Mueller

Current Medications: Welactin.

Labwork Results: Labwork not attached, reported as: ALP: 666 (5/2025); 387 (11/2024); 532 (4/2024)
ALT: WNL

SPECIES

Canine

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed by: Stephanie Warga RDCS, RVT.

BREED

Miniature Schnauzer

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

SEX

Spayed Female

Urinary System

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.

AGE

5/13/15

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. The left kidney measures 4.61 cm. The right kidney measures 5.03 cm.

WEIGHT

7.53 kg

Adrenal Glands

INTERPRETED BY

Beth Johnson, DVM
DACVIM

Left adrenal gland is normal in size (0.56 cm at cranial pole and 0.65 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.72 cm at cranial pole and 0.62 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

HOSPITAL NAME

Banfield Columbia

Spleen

REFERRING VET

Dr. Landon

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). Except for, a small (0.2 cm x 0.5 cm), non-capsule-disrupting, hypo- to anechoic appearing density noted in the mid spleen. Splenic vasculature appears normal.

INVOICE

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Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mildly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Subjectively, some of the hepatic veins appear mildly dilated. The visible biliary tree is normal without distention 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.

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 no visible free peritoneal effusion noted in these images.

Caudal to the left kidney, there is a mildly irregularly shaped, approximately 2.5 cm x 1.5 cm in size, hypoechoic density that is difficult to attach to surrounding tissue and/or originate, suspicious for an enlarged lymph node. No other lymphadenopathy is noted.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Mildly 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.
- Mild gallbladder liver- 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.
- The density described above, caudal to the left kidney, appears to represent an enlarged lymph node, although other tissue origin/attachment can't be ruled out. Differentials include infiltrative neoplasia, as well as benign inflammatory disease that warrants tissue sampling for further differentiation.

Secondary Findings

- Age-related kidney changes
- Hypo- to anechoic splenic nodule- likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions and cannot be ruled out.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

As is reportedly already in place, further cardiac work up/echocardiogram is recommended.

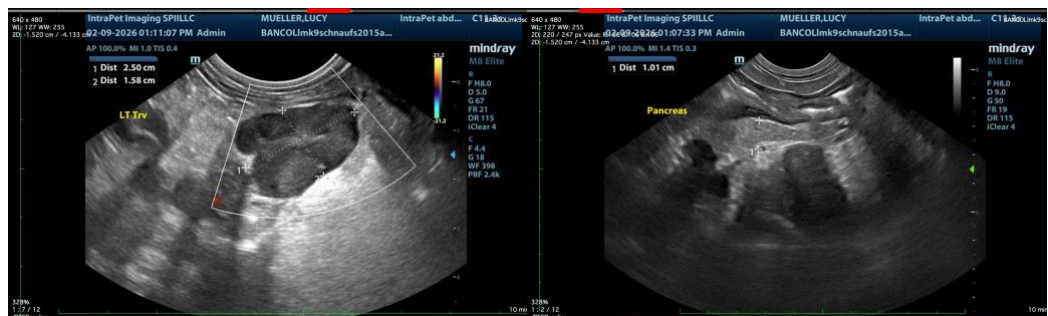
A blood pressure is recommended if not recently evaluated.

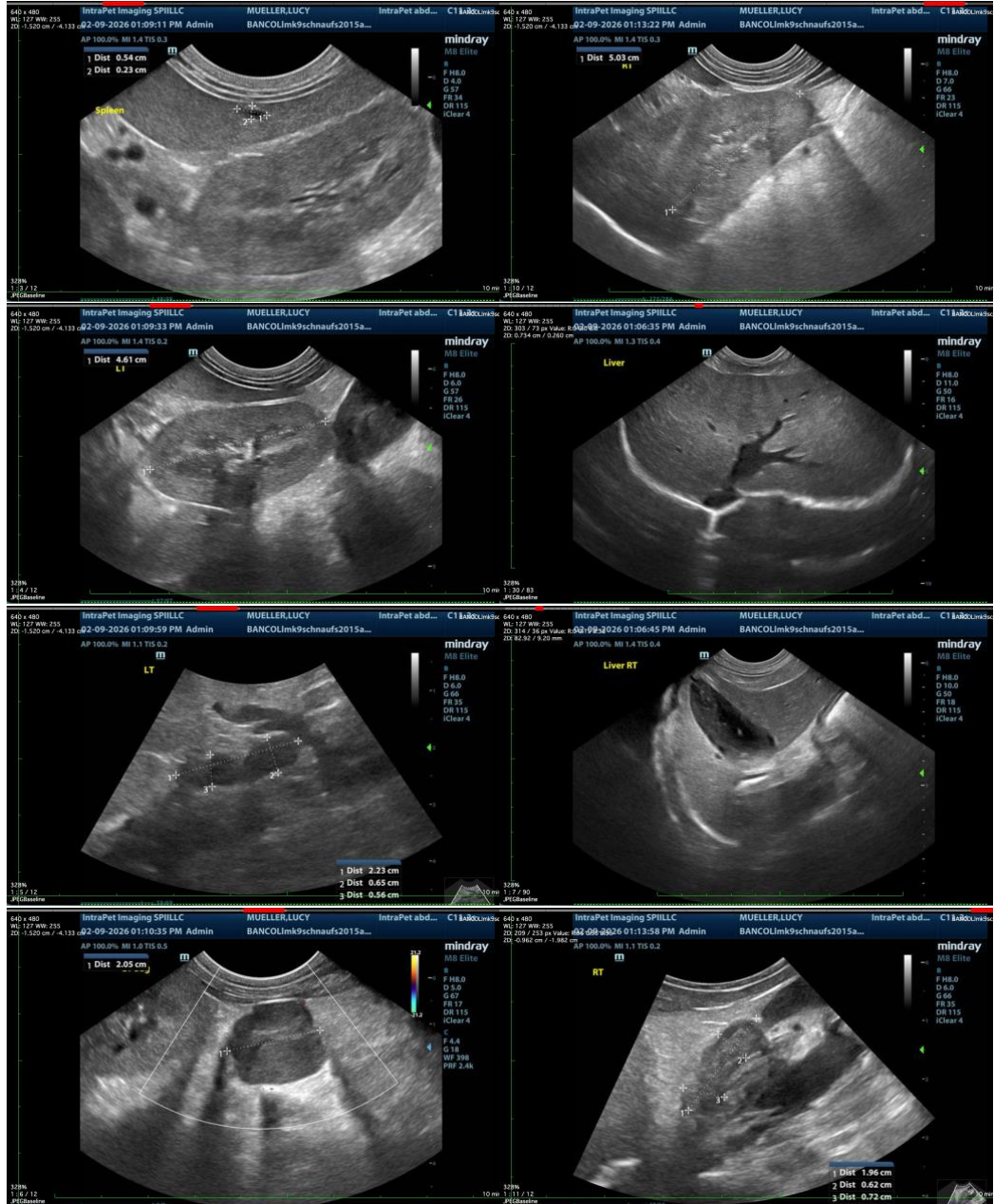
Given the density described above, caudal to the left kidney, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Fine needle aspirates of that density/suspect lymph node are recommended if patient's coagulation status is appropriate.

Otherwise, 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.
- Ursodiol could be considered if gallbladder sludge is noted as a finding.
- 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 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

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