IMAGING PERFORMED BY

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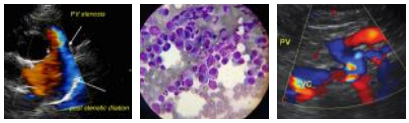

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DATE
10/24/22

PATIENT
Caramel Taylor

SPECIES
Canine

BREED
Terrier Mix

SEX
Terrier Mix

AGE
11/22/2009

WEIGHT
6.7 kg

INTERPRETED BY
Beth Johnson, DVM DACVIM

HOSPITAL NAME
Banfield Columbia

REFERRING VET
Dr. Wendell

INVOICE
17897

PRESENTING CLINICAL SIGNS

History: History of persistently elevated liver values, found on routine bloodwork. Patient asymptomatic.

Current Medications: None listed.
Lab Results: ALT 218 (10-125) 9/2022, ALP 546 (23-212) 9/2022. Previous bloodwork since 2020 similar.
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.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Left kidney is normal is size (4.0 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.

Right kidney is normal is size (3.91 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 largely normal in size, shape and contour. Some parenchymal heterogenicity is present without concerning capsular distortion. These changes are likely normal for this age but should be monitored if there is any suspicion of adrenal disease. The right adrenal gland measures 1.5 cm long x 0.63 cm at cranial pole and 0.4 cm at caudal pole. The left adrenal gland measures 1.8 cm long x 0.45 cm at cranial pole and 0.45 cm at caudal pole.

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). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively mildly enlarged in size with slightly rounded peripheral contours. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. Multifocal discreet hyperechoic nodules of varying sizes are noted, the largest of which is adjacent to the gallbladder and measures approximately 3.0 cm in diameter. 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.

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 and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The observed pancreas 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 evidence of peritoneal effusion. There is no apparent lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Liver nodules – Differentials for a discrete liver nodule include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, 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.

- 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.

- 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 FIP, 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.

Secondary Findings

- Urinary bladder debris

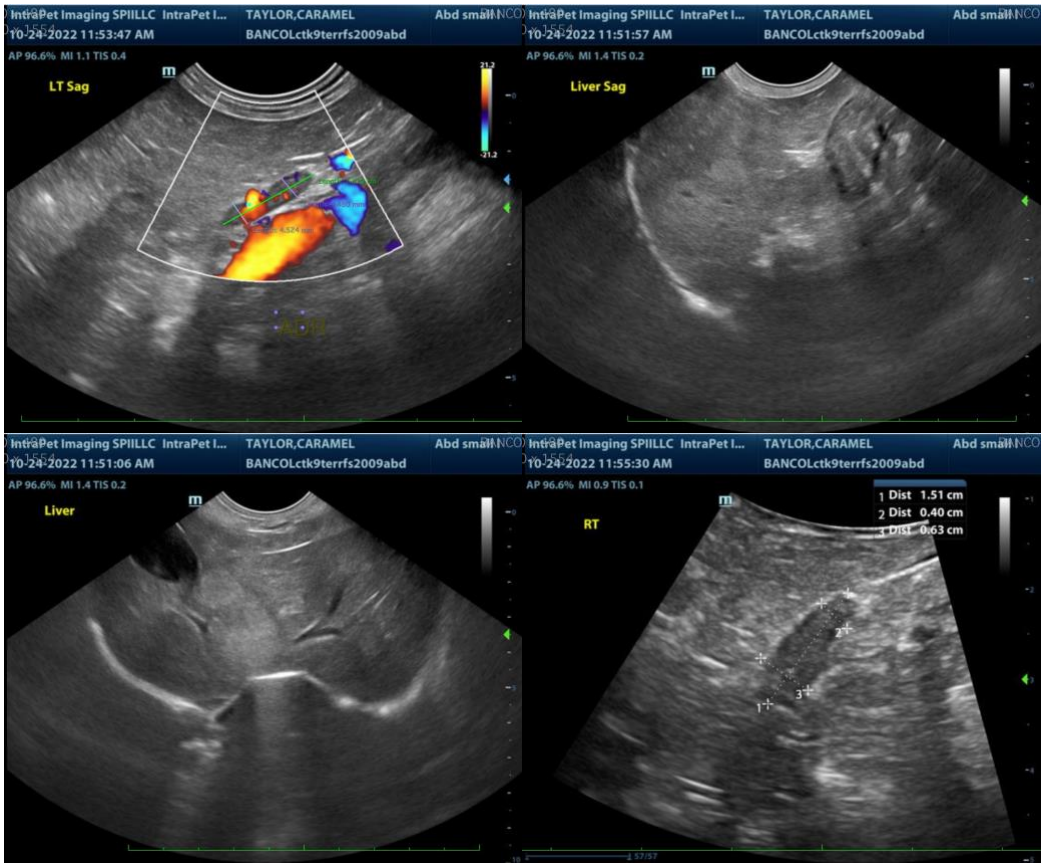
- Age-related adrenal gland changes

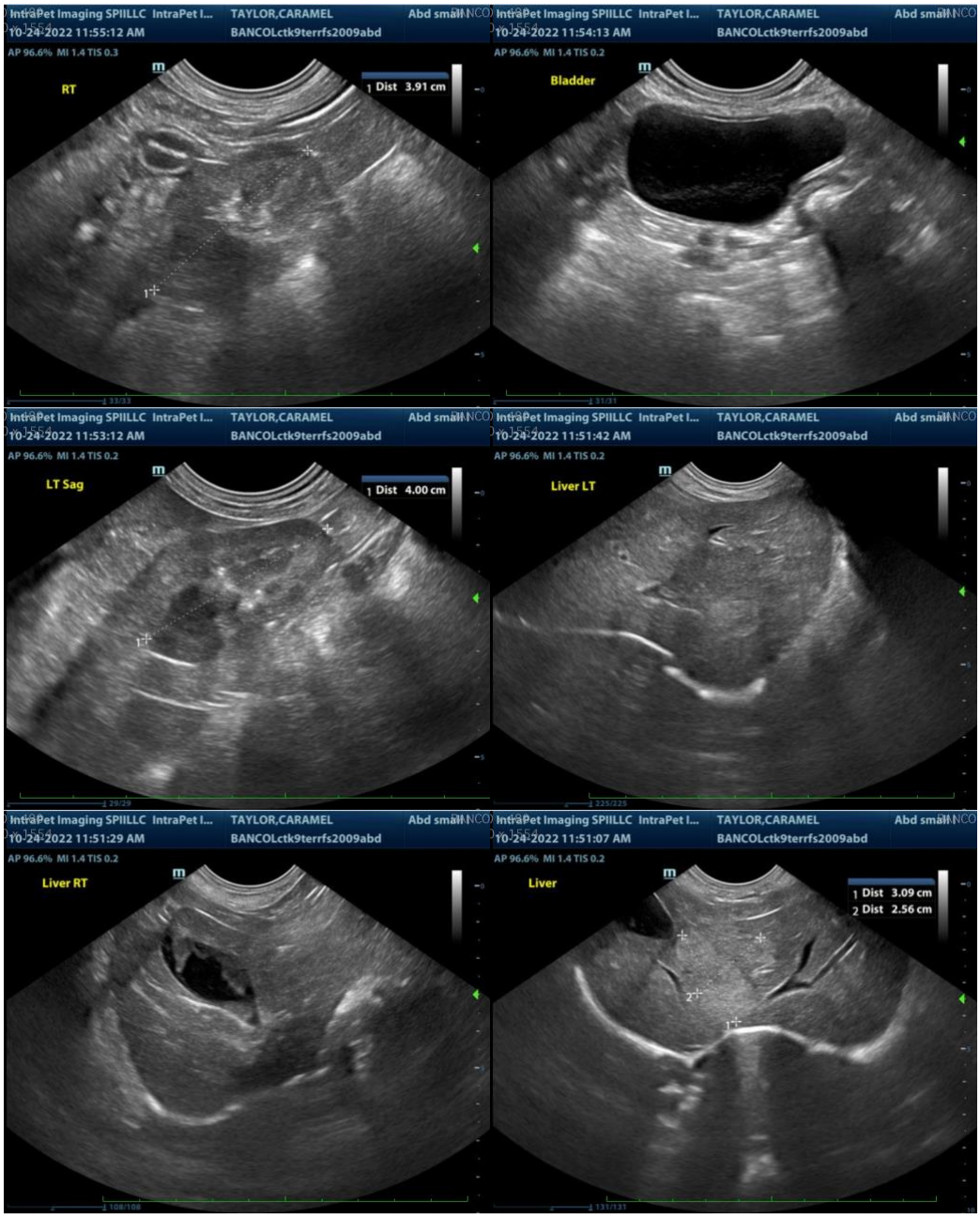
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

While the liver nodules trend in appearance towards the benign, a fine needle aspirate of the liver is recommended if patient coagulation stratus is appropriate.

In the meantime, empirical hepatic nutraceuticals are recommended, including ursodiol given the mild gallbladder debris with monitoring for improvement. If improvement is not noted, additional diagnostic considerations include bile acids, as well as testing for Leptospirosis and additional therapeutic intervention could include empirical antibiotics.

Ultimately, without a diagnosis, and if liver values progress and/or clinical signs develop, a liver biopsy may be necessary to definitively diagnose the infiltrative process.





The information and recommendations provided are based on the images presented by the referring veterinarian. 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
Beth.Johnson@SonoPath.com