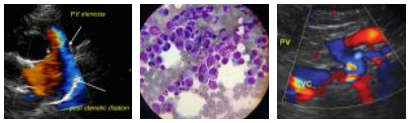
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE

8/14/23

PATIENT

Ellie Amelang

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

Spayed Female

AGE

6/10/13

WEIGHT

17.5 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Parkville AH

REFERRING VET

Dr. Suter

INVOICE

23950

PRESENTING CLINICAL SIGNS

Presented for dental 7/5/23 CBC/Chem 11/Lytes - ALKP-1671; Pre-op ECG - Normal; Postpone dental; USG - 1.028; Recommend lateral thoracic radiograph to evaluate for cardiomegaly and ACTH Stimulation test to. R/O Cushing's - Called owner. Owner approved. Lateral thoracic radiograph - VHS - 10.58 - normal, no evidence of pulmonary edema, hepatomegaly; ACTH Stimulation test - 0.15 ml Cortrosyn IV; Blood drawn 1 hour later

Current Medications: 7/7/23 Denamarin Advanced Sm/Md 1/2 tab SID for 30 days. 7/7/23 Metronidazole 250 mg 1/2 tab bid 10 days
Lab Results: 7/5/23 CBC/Chem 11/Lytes - ALKP-1671; Pre-op ECG - Normal; Postpone dental; USG - 1.028 ACTH TEST NORMAL. 8/2/23 Chem 10 - BUN-32, ALKP - 1226 (previously 1671 on 7/5/23)
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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.

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. In the left kidney, a 1.5 cm x 2.0 cm cortical cyst was noted in the caudal pole. Left kidney measures 4.57 cm. Right kidney measures 4.57 cm.

Adrenal Glands

Left adrenal gland is normal in size (0.62 cm at cranial pole and 0.68 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.62 cm at cranial pole and 0.53 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

Spleen is generally normal in size and shape with a smooth capsular contour. Parenchyma is diffusely nodular in appearance characterized by small discrete hypoechoic nodules. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion. In addition to the diffuse heterogenicity, adjacent to the gallbladder, there is a 2.8 cm x 1.6 cm more discrete, slightly more heterogenous iso- to mildly hyperechoic nodule.

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. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction or foreign material.

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. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. 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.

Other

There is no evidence of heart base or pericardial pathology noted in these images at this time. If cardiac function evaluation is desired a full echocardiogram is recommended.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- 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. The more discrete nodule described above could represent similar benign differentials such as nodular hyperplasia, etc. vs cyst, hematoma, less likely abscess, or even infiltrative neoplasia, such as adenoma/hepatoma, hepatocellular carcinoma, other.

- Splenic micronodular hyperplasia – This nodular change is often associated with benign aging nodular hyperplasia. Infiltrative neoplasia, however, including both early hemangiosarcoma as well as round cell neoplasia cannot be ruled out.

- 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.

- Mucosal speckling – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.

- Pancreatic age-related remodeling – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

Secondary Findings

- Age-related kidney changes with a cortical cyst in the left kidney

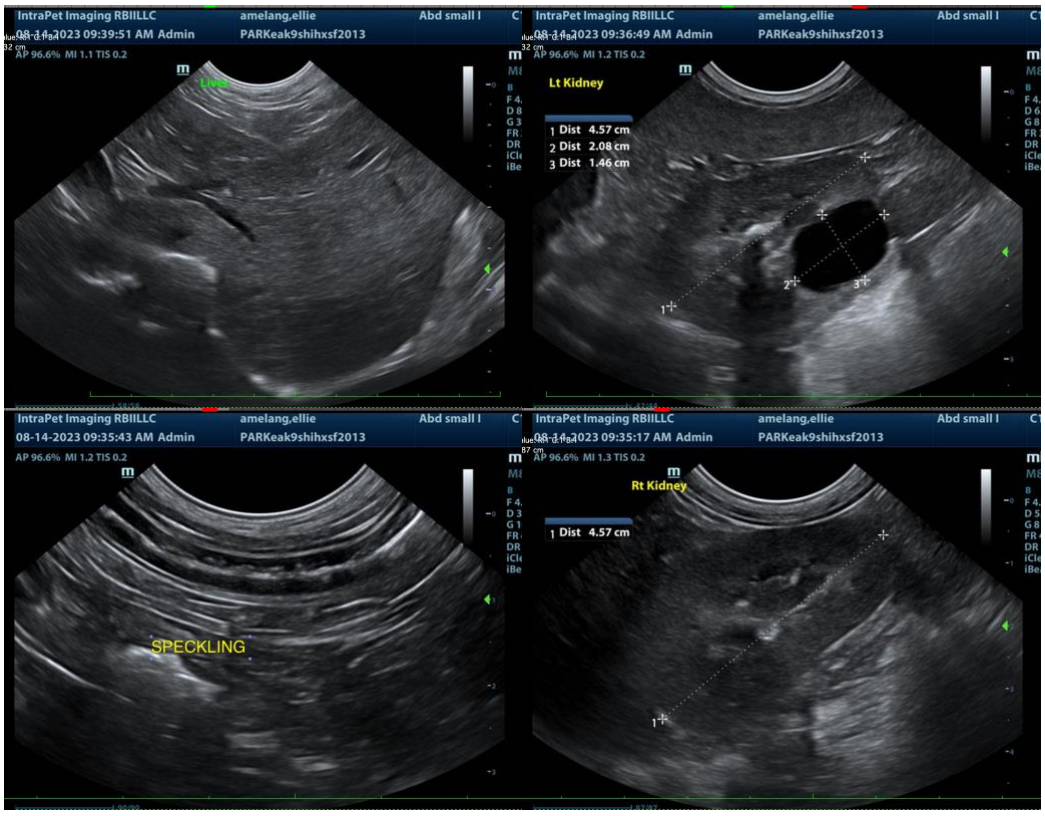
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

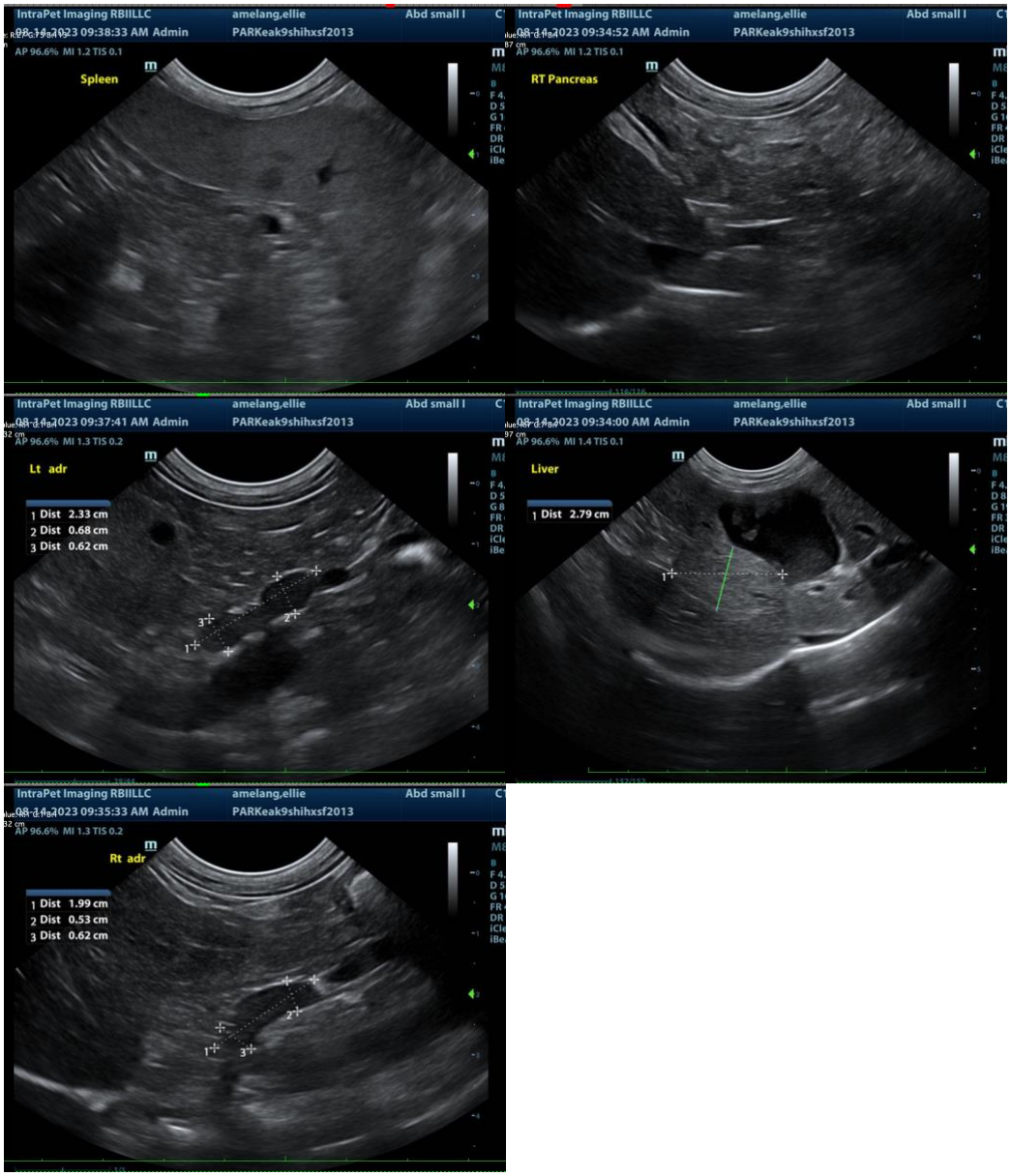
Overall, the pathology described above trends generally toward benign in appearance with the discrete liver nodule being the most significant/concerning change.

Recommendations include fine needle aspirates of the liver, both the diffuse changes, as well as the focal nodule +/- the spleen, if patients coagulation status is appropriate.

Given the subtle bowel and pancreatic changes, especially if there is any history of gastrointestinal signs, further evaluation of digestion and absorption could also me considered, beginning with gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

In the meantime, however, some of the liver enzyme changes could be secondary to the gallbladder debris and a course of empirical hepatic nutraceuticals, i.e., Ursodiol could be considered with monitoring of liver enzymes for improvement.





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
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