

**DATE**

10/7/22

PRESENTING CLINICAL SIGNS

History: S Hx of recurrent CaOx uroliths. Been managed fairly well recently on s/o diet, hydrochlorothiazide, K citrate. Recent xray showed a questionable urolith and a possible splenic nodule.

PATIENT

Current Medications: None listed.

Murphy Dietz

Lab Results: U/a 10/4/22: WNL except pH=5.0, USG=1.018.

SPECIES

Radiographs: Possible urolith present in bladder but some bowel superimposed. Scalloped nodule possibly present on ventral aspect of spleen.

Canine

Date of Previous IntraPet Ultrasound: No previous.

BREED

Sedation: dexdom 0.1 cc / butorphanol 0.3 cc IV

Pug Mix

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

SEX**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Neutered Male

Urinary System

Urinary bladder is adequately distended with anechoic contents. No masses or inflammatory changes are observed. Multiple small cystoliths are noted, the largest of which measures 0.4 cm near the apex of the bladder. Several other smaller cystoliths are noted in the trigone and within the intraprostatic urethra. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

AGE

6/27/11

Prostate is normal in size, echotexture and echogenicity for a neutered male.

WEIGHT

31 Pounds

Left kidney is normal is size (4.94 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, or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted. A hyperechoic band parallel to the corticomedullary border is present.

INTERPRETED BYBeth Johnson, DVM
DACVIM

Right kidney is normal is size (5.49 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, or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted. A hyperechoic band parallel to the corticomedullary border is present.

HOSPITAL NAME

Greenbrier VC

Adrenal Glands

In the left adrenal gland, there is a heterogeneous mass that measures 3.7 cm long x 1.9 cm at the area of the cranial pole and 1.46 cm at the area of the caudal pole. The mass results in swollen capsular expansion with some suspicion for early capsular escape and suspect early or partial vascular invasion.

REFERRING VET

Dr. Streett

Right adrenal gland is normal in size (2.0 cm long x 0.59 cm at cranial pole and 0.62 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

INVOICE

17610

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). A 1.5 cm x 2.0 cm hypoechoic nodule was noted near the head of the spleen that results in a mild capsular bulge. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. An approximately 2.0 cm in diameter hypoechoic nodule is noted cranial/adjacent to the gallbladder and an approximately 2.0 cm hypoechoic slightly rounded nodule or liver lobe in the caudal mid liver adjacent to the stomach. 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 area of the pancreas contains irregular hyperechoic pancreatic remodeling.

Free Abdomen

Several small hypoechoic nodule or possibly lymph nodes around the caudal liver adjacent to the stomach.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- A left adrenal mass with suspicion of capsular escape and early vascular invasion, differentials for which include an early pheochromocytoma versus potentially adenocarcinoma. A benign adenoma or even hyperplasia is possible but considered less likely given the suspected capsular escape and vascular invasion.
- Hypoechoic hepatomegaly-This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.
 - * Liver nodules – Differentials for discrete liver nodules include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, etc.; however, primary hepatic neoplasia, infiltrative round cell neoplasia or even metastatic disease can mimic benign lesions and cannot be definitively ruled out.
- 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.
- The hypoechoic nodules/structures between the liver and stomach may be hypoechoic, enlarged lymph nodes, however, adjacent liver nodules cannot be definitively ruled out and both reactive, as well as infiltrative neoplastic differentials have to be considered.

- Urinary bladder cystoliths

Primary Findings

- 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.
- Hyperechoic pancreas – This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.
- Nonobstructive nephrolithiasis bilaterally in the kidneys and bilateral medullary rim sign

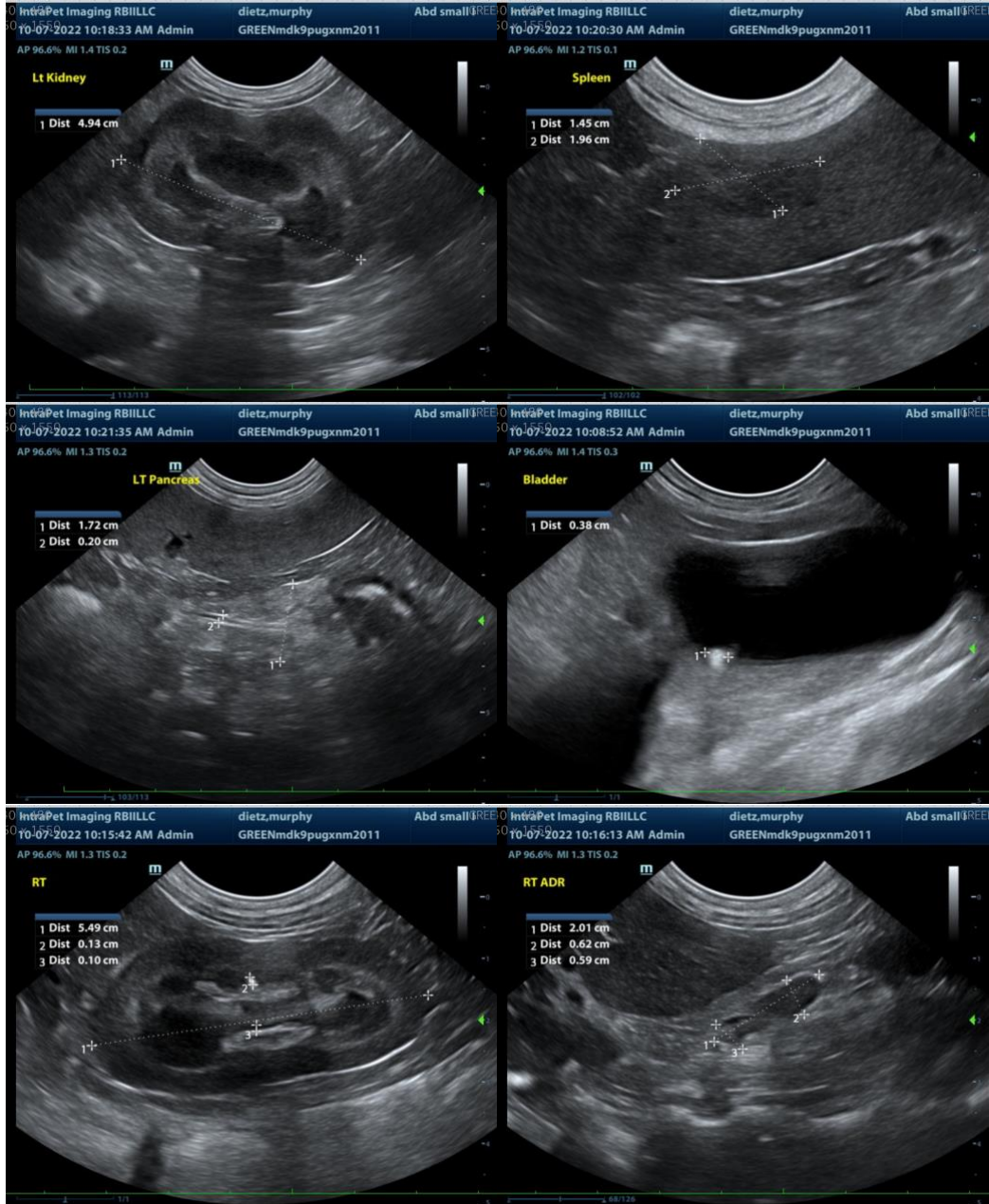
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

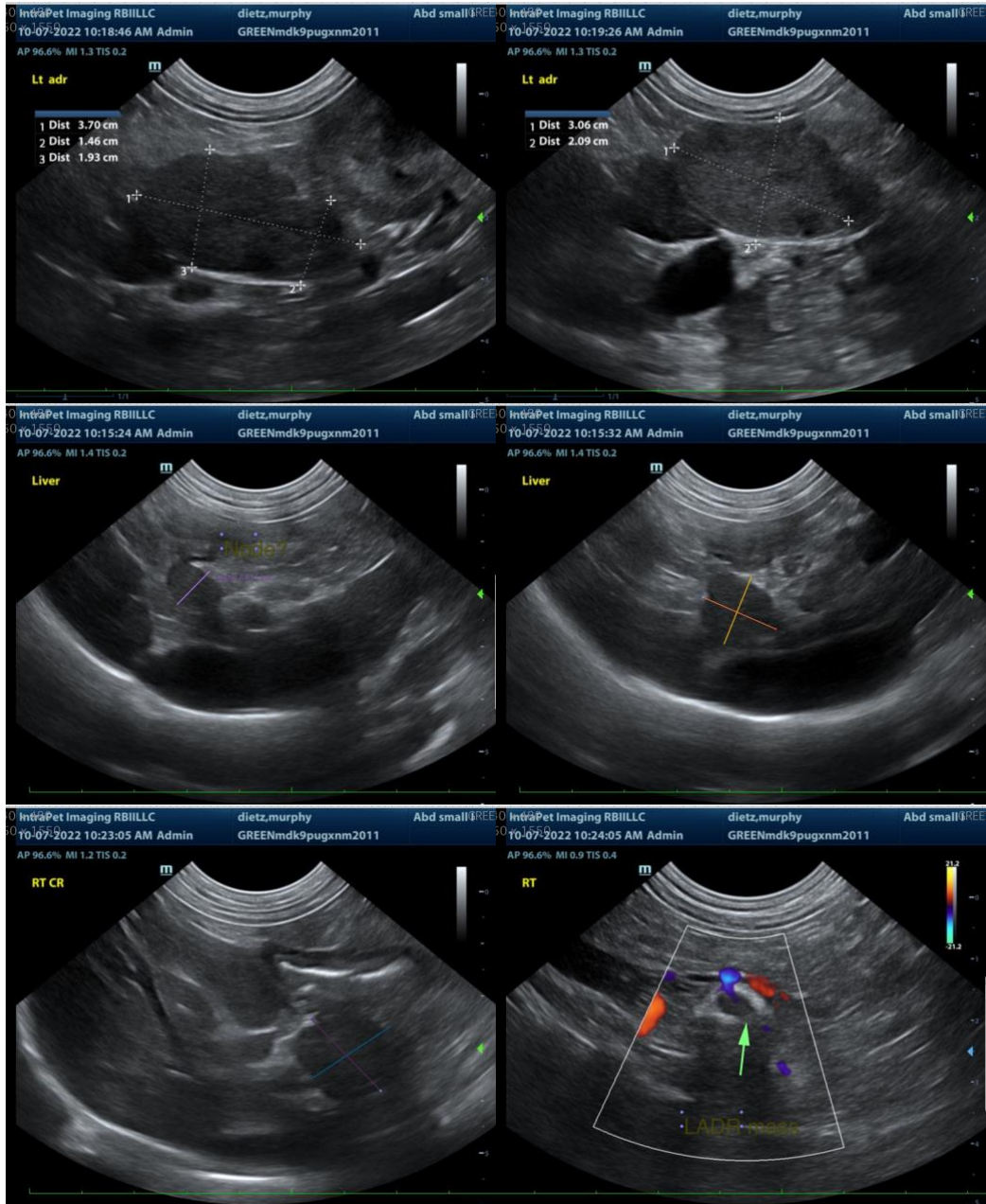
Given the presence of the left adrenal mass, adrenal hormone testing is warranted in the form of a low dose dexamethasone suppression test to begin with. Given the possibility of a pheochromocytoma, a blood pressure is also recommended. Ultimately, treatment recommendations for a left adrenal mass may be an adrenalectomy and if elected, presurgical planning abdominal CT scan is recommended for further, more definitive evaluation of capsular escape and/or vascular invasion. If surgery is not elected, routine monitoring of the adrenal gland is recommended with a recheck ultrasound in 4-6 weeks.

In the meantime, a fine needle aspirate of the liver +/- the spleen is recommended if patients coagulation status is appropriate.

The pancreatic changes may be incidental age-related changes, however, if GI signs are present, especially loose stool and/or weight loss a 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.









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