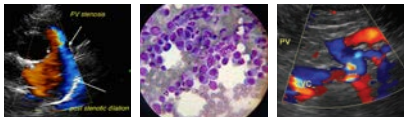
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE

2/24/22

PATIENT

Mr. T Greenberg

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

10/8/11

WEIGHT

13.2 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Eastern AH

REFERRING VET

Dr. Frere

INVOICE

35885

PRESENTING CLINICAL SIGNS

Presented to EAH as follow up exam on 2/22 after being seen at Falls Road Animal Hospital for vomiting and diarrhea. GI signs have resolved since being at Falls Road the day prior, but p has been ataxic on hind limbs for while and has a hunched back. P has a hx of elevated ALT and ALP.

Current Medications: Denamarin 1 tab BID for 30 days starting 2/21, Metronidazole 250mg/mL- 0.35mL BID for 5 days starting 2/21, Cerenia 16mg SID for 4 days starting 2/21, Methocarbamol 250mg/mL- 0.4mL TID for 14 days starting 2/22.
Lab Results: Based on Falls Road records 2/21/22: ALT 146, ALP 483.
Radiographs: Based on Falls Road records 2/21/22- Radiographic consult- potential lung mass, otherwise unremarkable thorax and suspected IVDD.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is almost empty. Therefore, full evaluation is hindered. 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.

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

The right kidney is normal in size (4.6 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, primarily in the diverticular of the kidney.

The left kidney is normal in size (4.3 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, primarily in the diverticular of the kidney.

Adrenal Glands

The right adrenal gland is increased in size/plump, measuring 3.36 cm long x 1.06 cm at the cranial pole and 0.86 cm at the caudal pole. Normal shape and contour are maintained. However, overall parenchyma is mildly heterogeneous. Visible surrounding vasculature appears normal.

The left adrenal gland is large/rounded in size (3.25 cm long x 1.67 cm at the cranial pole and 1.26 cm at the caudal pole). Normal shape is maintained. However, the cranial pole has a mildly irregular contour caused by a hyperechoic nodule in the cranial pole that measures 2.0 cm x 1.4 cm. Visible surrounding vasculature appears normal.

Spleen

The 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

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in

echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

GB contains a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion. There is hyperreactive/hyperechoic tissue surrounding the neck of the gallbladder.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is 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 (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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 pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of peritoneal effusion. Mild mesenteric lymphadenopathy is appreciated. No pericardial effusion noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary depending hyperadrenocorticism vs normal variant.

- Hyperechoic adrenal nodule on the left cranial pole - Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Lesions greater than 2 cm are generally primary adrenal neoplasia (benign or malignant) vs hyperplasia with lesions greater than 4 cm being more predictive of malignant neoplasia. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest hyperadrenocorticism) are most often incidental and should be monitored.

- Early mucocele – 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. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.

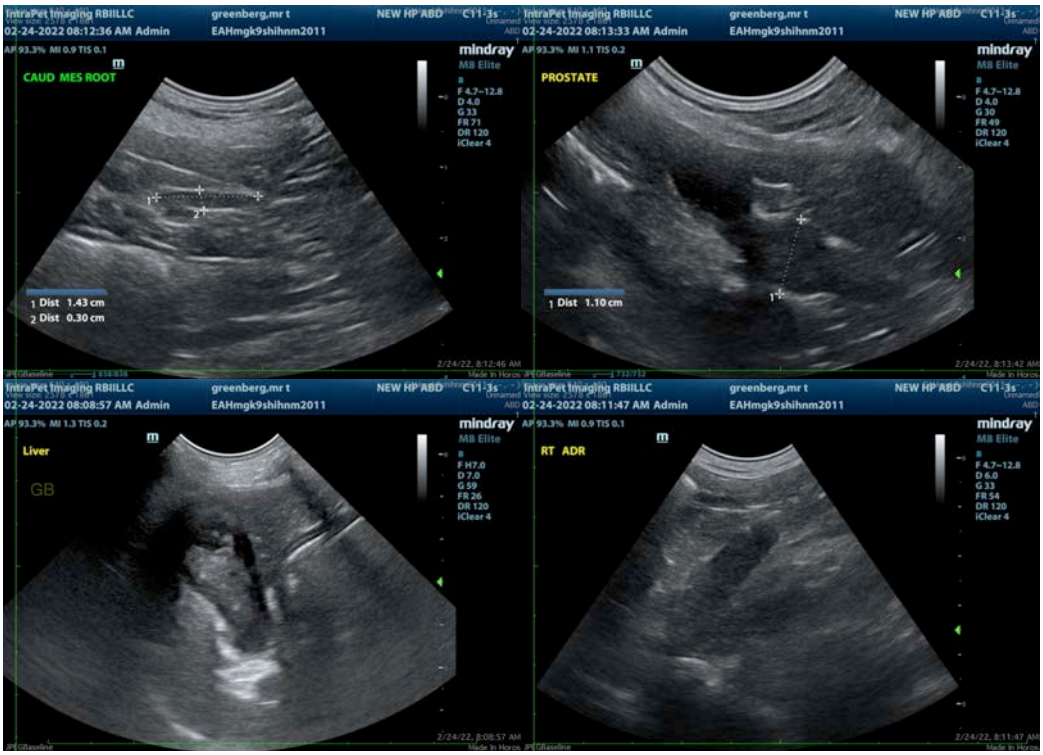
- Non-obstructive dystrophic mineralization bilaterally in the kidneys.

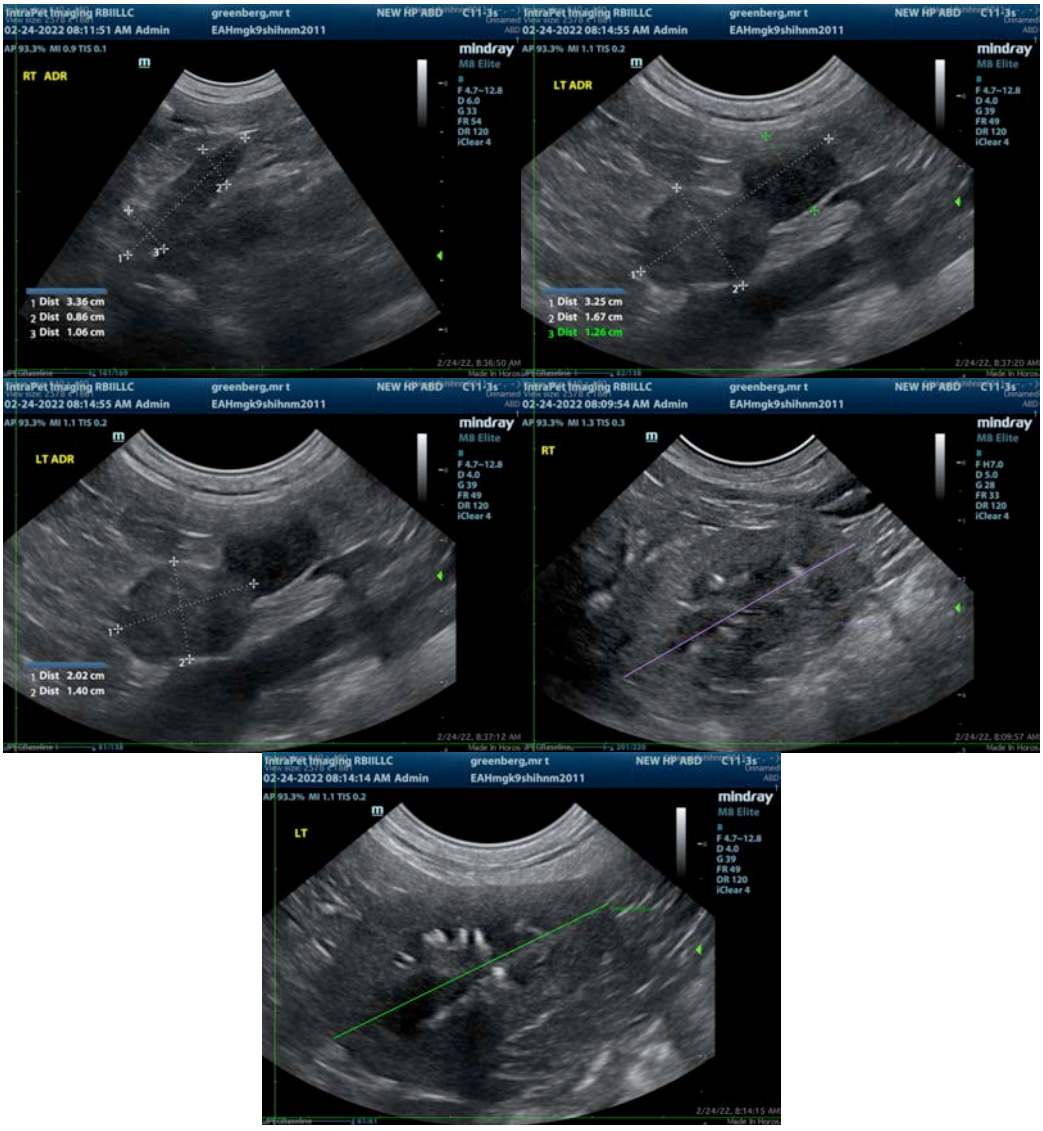
- Mild, most likely reactive mesenteric lymphadenopathy

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Increased liver enzymes in this patient are likely a combination of hyperadrenocorticism and an early gallbladder mucocele. If there are clinical signs of hyperadrenocorticism present such as polyuria, polydipsia, polyphagia, etc., testing for hyperadrenocorticism with a low-dose Dexamethasone suppression test is recommended. If positive, this patient's hyperadrenocorticism is most likely pituitary dependent. If hyperadrenocorticism is diagnosed, urinalysis is recommended if not recently evaluated, and a urine culture if indicated based on urinalysis results.

If the urine culture is negative and there is any protein in the urine with an otherwise quiet sediment, a urine protein to creatinine ratio is also recommended. If not recently evaluated, a blood pressure is recommended. In the meantime, empirical therapy could include broad-spectrum antibiotics as well as Ursodiol to address the gallbladder sludge possibly concurrently contributing to the increased ALP. If the ALP improves while on antibiotics, therapeutic recommendations are to continue antibiotics until ALP resolves or palteaus.





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
Beth.Johnson@sonopath.com