**DATE**

1/31/22

PRESENTING CLINICAL SIGNS

History: Presented to me as second opinion on 1/22/22. Marked elevation of liver values, moderate renal value elevation with concurrent UTI. Pet has suspect signs of hyperadrenocorticism including cranial abdomen organomegaly on palpation, muscle wasting, increase ALP, PLT, dilute urine, PU/PD. Pet also has a heart murmur, owner declined echocardiogram at this time.

PATIENT

Moe Kahler

Current Medications: Enrofloxacin 136 mg 1/4 po SID started 1/22/22 and will be on gabapentin 100mg and trazodone 25 mg for US.

SPECIES

Canine

Lab Results: 1/11/22 labs: Elevated ALP, AST, GGT, Chol, Lipase, Platelets, increased WBC (neutrophils) with stress pattern, pyuria/bacteriuria. 1/22/22 pyuria/bacteria persistent after course of Clavamox from previous DVM. Attached separately.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

BREED

Yorkshire Terrier

Imaging Performed By: Rachel Brillhart, RDMS.

SEX

Neutered male

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

Urinary bladder is moderately distended with anechoic contents. It has normal uniform wall thickness (< 0.2 cm). No masses or cystoliths are observed.

AGE

1/18/09

The prostate is normal for a neutered dog.

WEIGHT

16 lbs

Left kidney is normal in size (5.06 cm), shape and echogenicity. It has smooth peripheral margination and appropriate corticomedullary distinction. Renal pelvis is dilated (pyelectasia), measuring (0.2 cm). No visible obstruction is observed, but cannot be ruled out. No mineral is observed.

Right kidney is normal in size (5.82 cm), shape and echogenicity. It has smooth peripheral margination and appropriate corticomedullary distinction. Renal pelvis is dilated (pyelectasia), measuring (0.23 cm). No visible obstruction is observed, but cannot be ruled out. No mineral is observed.

INTERPRETED BYBeth Johnson, DVM
DACVIM**Adrenal Glands**

Adrenal gland is enlarged in size. The left adrenal gland measured 2.78 cm long and 0.88 cm at the cranial pole and 1.02 cm at the caudal pole. The right adrenal gland measured 2.16 cm long, 1.0 cm at the cranial pole and 0.84 cm at the caudal pole. Normal shape and contour are maintained. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

HOSPITAL NAME

Perry Hall AH

REFERRING VET

Dr. Hatzigiannakis

Spleen

Spleen is subjectively normal in size with normal smooth margins. Parenchyma is normal in echogenicity and echotexture. Multifocal well-demarcated hyperechoic homogenous nodules are visualized. Splenic vasculature appears normal.

INVOICE

95660

Liver

Liver is subjectively enlarged with rounded margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature appears normal. Multi-focal, intrahepatic biliary mineral is noted. GB is moderately distended with anechoic bile and gravity dependent echogenic sediment. Some of the sediment appears mineral in nature with a 1.0 cm cholelith observed. 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 gastric wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm). 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 small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). There are no luminal contents noted within small intestines.

Colon is normal in wall thickness (< 0.2 cm) and layering.

Pancreas

Pancreas is prominent in size and mildly irregular in shape with a diffusely, mottled/nodular echotexture characterized by hypoechoic nodules in an otherwise, hyperechoic parenchyma.

Free Abdomen

Lymph nodes are normal with no observed enlargement.

ULTRASONOGRAPHIC FINDINGS

- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary depending hyperadrenocorticism vs normal variant.
- Hyperechoic splenic nodules – most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are less likely.
- Heterogenous liver with multi-focal, mineral foci noted throughout the intrahepatic biliary system- Differentials for hepatic changes include both benign steroid (vacuolar) hepatopathy or extramedullary hematopoiesis as well as infiltrative round cell or metastatic neoplasia.
- Canine gallbladder debris with concurrent cholelith- 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.
- Prominent, nodular pancreas. Consistent with chronic pancreatitis and nodular hyperplasia.
- Pyelectasia – Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.

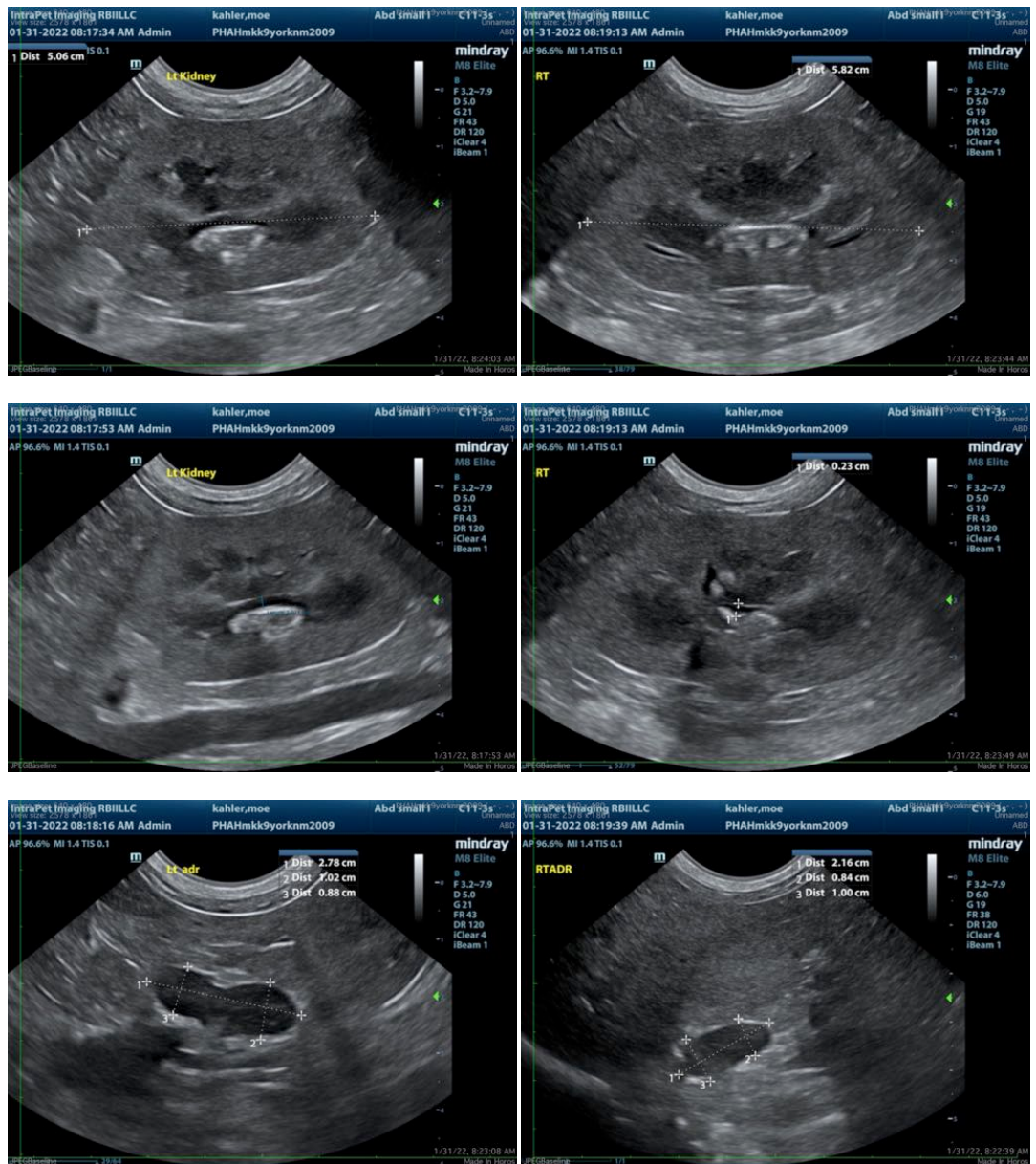
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

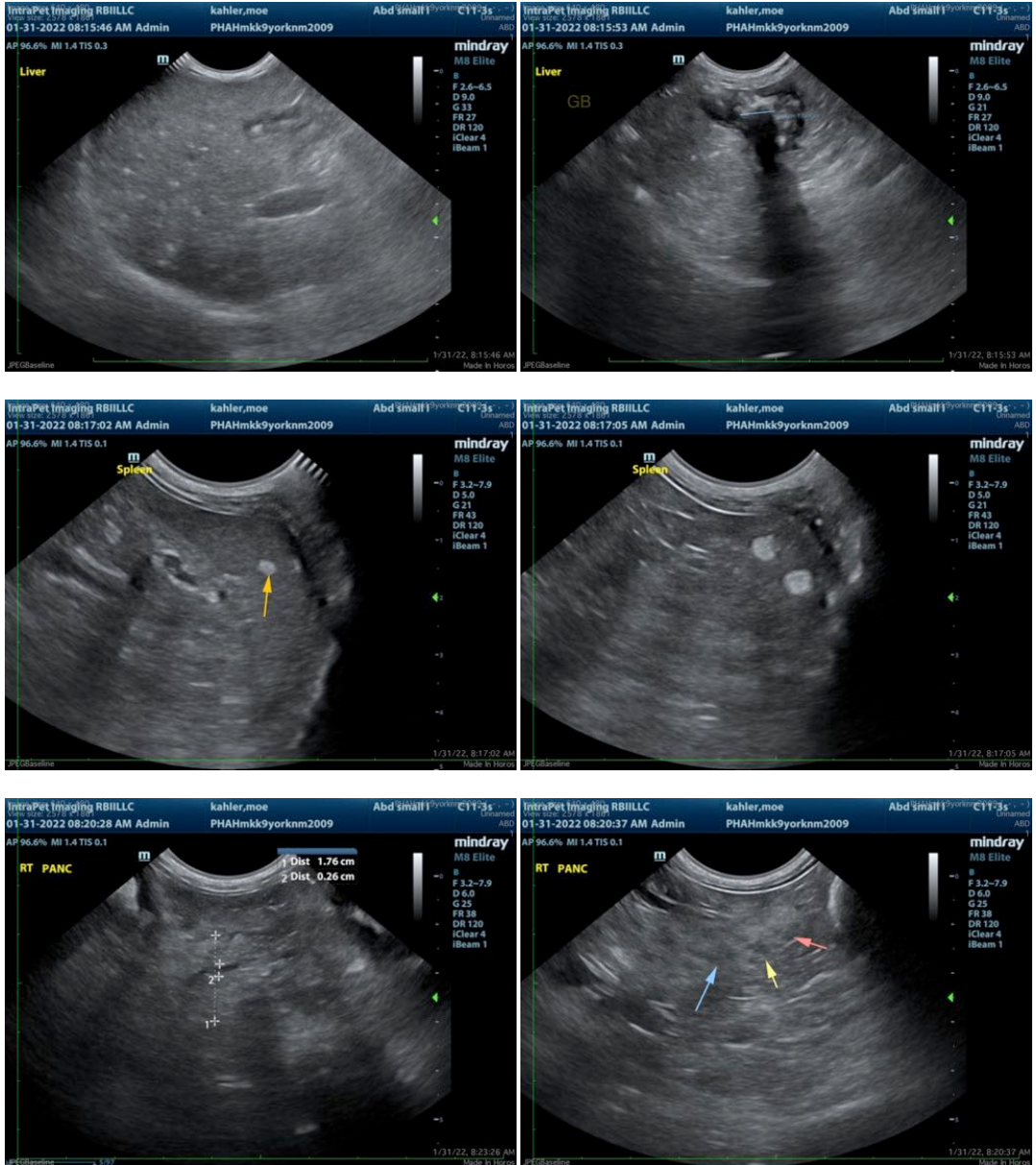
Monitor splenic nodules for changes in size and/or appearance, as myelolipomas typically remain unchanged, or fine needle aspirate of the spleen if patient's coagulation status is appropriate.

This patient's liver changes could be a combination of chronic hepatitis/cholangiohepatitis with mineral present combined with possible vacuolar/steroid hepatopathy caused by probable hyperadrenocorticism. Recommendations include a FNA of the liver if the patient's coagulation is appropriate as well as empirical

medical management with Ursodiol and Denamarin. Low-dose Dexamethasone suppression test is warranted to rule in/out hyperadrenocorticism, which if diagnosed is pituitary dependent based on these ultrasound images.

Mild pyelectasia could be the result of the reported PU/PD or pyelonephritis given the reported urinary tract infection. Recommendations include management of the urinary tract infection as if pyelonephritis is present meaning a longer treatment course combined with a mid treatment course culture to ensure that the bacteria is clearing followed by a final culture a week after finishing antibiotics to be sure that the infection is fully cleared and not recurrent.





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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