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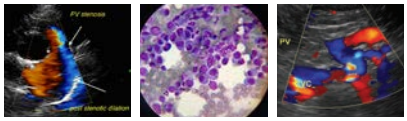

SonoPath
Clinical Sonography & Telecytology
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DATE

7/20/22

PATIENT

Hobey Hettleman

SPECIES

Canine

BREED

Foxhound X

SEX

Spayed Female

AGE

8/1/09

WEIGHT

63 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Stevenson Village VH

REFERRING VET

Dr. Rathbun

INVOICE

39701

PRESENTING CLINICAL SIGNS

See history from ultrasound on 12-23-2020. Chronic liver enzyme elevation. Diagnosed as moderate suppurative, lymphoplasmacytic, chronic-active cholangiohepatitis with moderate portal-portal bridging fibroplasia, hydropic change and micronodular regeneration via pathology from biopsies taken on 1-15-2021. Was well managed on cyclosproine, ursodiol, denamarin and vitamin E, but the liver values have recently began elevating again at a dose of cyclosporine that previously had achieved management.

Current Medications: Since 1/21/2021: Ursodiol (250 mg tablets) - give 1.5 tablets PO, SID with food; Denamarin 225 mg tablets; Vitamin E (300 IU/day); Was initially started on a tapering course of prednisone at this time as well and the liver values initially responded, but then the ALT started climbing back up and the ALKP became very elevated, so we tapered off of prednisone and transitioning to cyclosporine on 4/5/2021 4/5/21 to present: -Started P on 100 mg cyclosporine PO, BID - liver values normalized at this dose, but became elevated whenever trying to gradually taper to SID dosing or a slightly lower dose. More recently, the liver values are becoming elevated when on 100 mg, PO, BID. Cyclosporine dose increased to 200 mg in AM and 100mg in PM on 7/8/2022.
Lab Results: Chronically elevated liver values; initially responded well to cyclosporine, ursodiol, vitamin E and denamarin, but recently the values are becoming elevated at the previous maintenance dose of cyclosporine
Date of Previous IntraPet Ultrasound: 12/23/20. See attached.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately 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. The left kidney measured 6.7 cm. The right kidney measured 6.44 cm.

Adrenal Glands

The right adrenal gland is normal in size (2.36 cm long x 1.0 cm at the cranial pole and 1.0 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (2.7 cm long x 0.85 cm at the cranial pole and 0.85 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

Liver

The liver is subjectively enlarged in size and mildly irregular in contour. Parenchyma is heterogeneous, characterized by multiple poorly defined, hypoechoic nodules as well as patchy, ill-defined areas of increased

echogenicity within a diffusely coarse parenchyma. Portal markings are prominent. Visible vasculature and biliary tree appear normal without distention or congestion.

Gallbladder is mildly overdistended with 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.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. 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 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 free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Heterogeneous, almost nodular appearing liver** – consistent with the previously diagnosed chronic active hepatitis with areas consistent with emerging fibrosis noted.

- **Emerging 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.

SECONDARY FINDINGS

- **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 considered less likely.

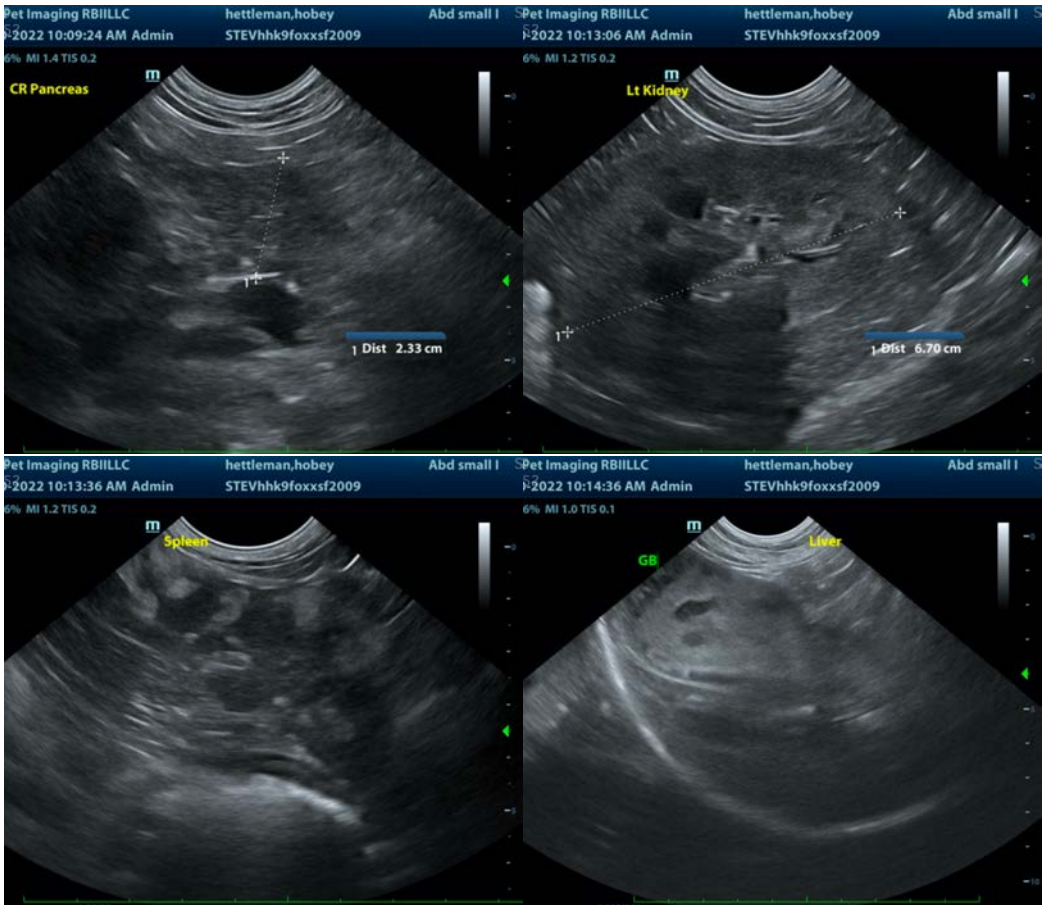
- **Pancreatic age-related remodeling –** Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

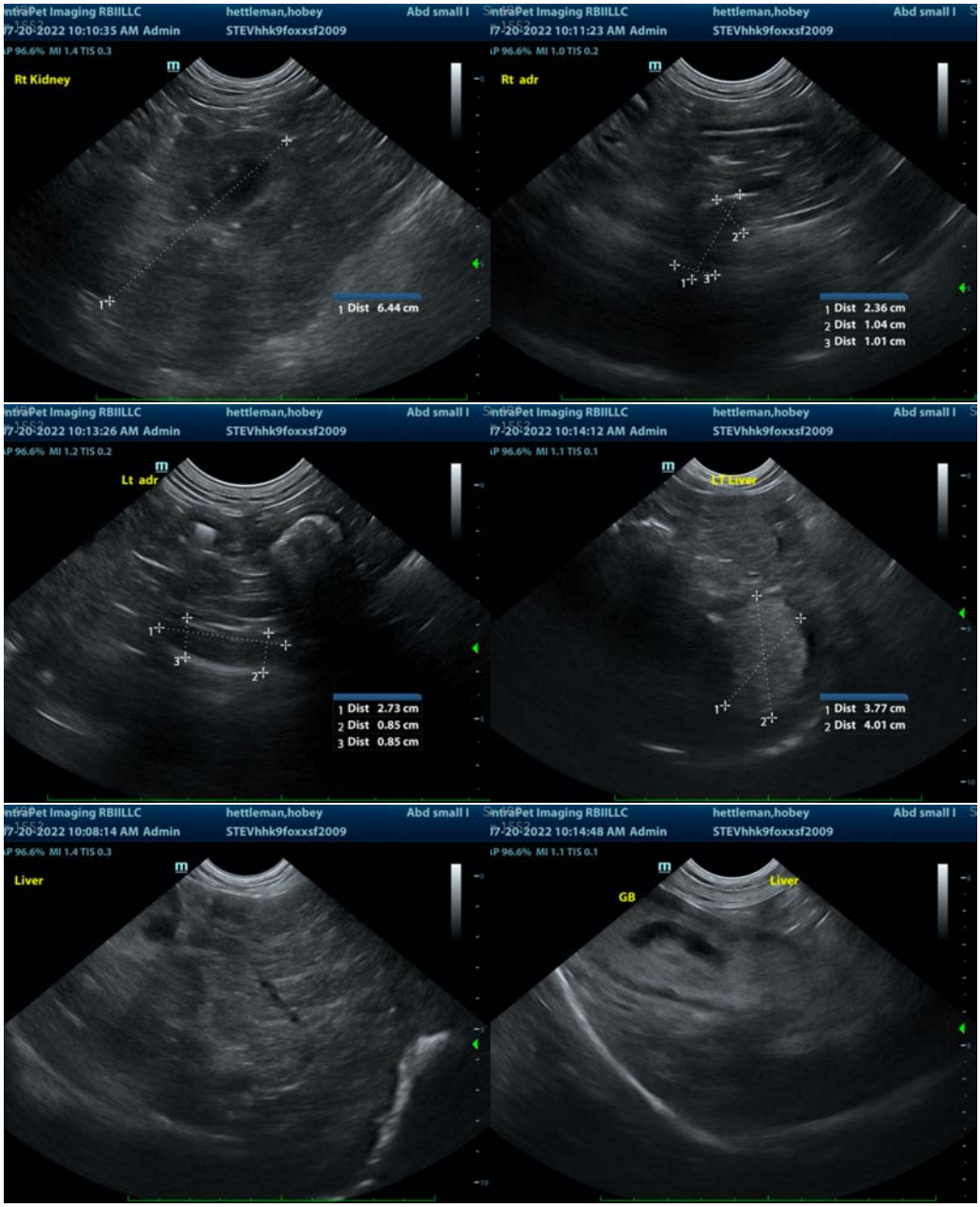
- **Age related kidney changes**

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- The reported progression of this patient's liver enzyme increases could certainly be a progression of the previously diagnosed hepatopathy. However, given the progression and visible gallbladder debris, an emerging mucocele is also likely a contributing factor. Bile acids is recommended if not recently evaluated to further assess liver function.

- If primarily the ALT has increased recently, weight would be given to a progression of the hepatopathy or a secondary infection, etc., and an empirical course of antibiotics could be considered. However, fi the primary recent increase is ALP, the emerging mucocele is more likely to blame, and a cholecystectomy with a recheck liver biopsy at the same time could be considered, especially if concurrent clinical signs of cranial abdominal pain, decreased appetite, nausea, etc. are noted.





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.

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