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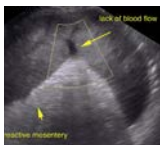
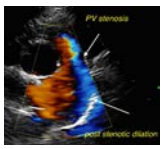
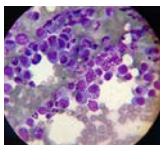
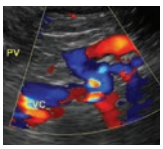

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1-800-838-4268 info@sonopath.com

PATIENT

Cadbury Cottengim

SPECIES

Canine

BREED

Labrador Retriever

SEX

Neutered Male

AGE

13 Years

WEIGHT

79.7 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Jessica Bailes

HOSPITAL NAME

All Creatures Great & Small

REFERRING VET

Dr. Brent Sadahiro

INVOICE

44561

DATE

1/26/23

PRESENTING CLINICAL SIGNS

Chronic intermittent hx of picky appetite; more recently possible nausea. Hx of severe OA - on galliprant, famotidine, Synovi G4, weekly ketamine injections and monthly adequan injections. Intermittent SQF as needed if patient not eating well.

Abnormal PE/Chem/CBC/UA Results: OA changes, presumptive GOLPPN, cognitive decline, otherwise NSF on PE BW: BW WNL 9/22. Rechecked 1/24/23: Increased AST (145), increased ALT (1694), increased ALP (1793), increased GGT (46), increased TBILI (0.8) CBC: WNL TT4: WNL @ 1.8 UA: USG = 1.030; 2 + bilirubinuria, otherwise WNL

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (6.22 cm) with pinpoint non-obstructive nephroliths. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.69 cm) with pinpoint non-obstructive nephroliths. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.65 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

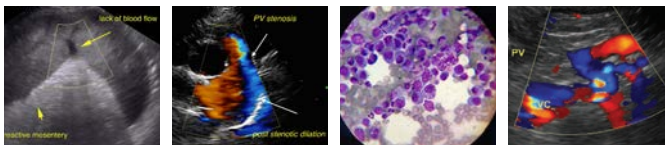
The right adrenal gland is normal in size measuring 0.32 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal.

Liver

The liver is subjectively small, and normal echogenicity with slightly irregular peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The heterogenous parenchyma borders on a diffusely nodular pattern.



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The gallbladder lumen is significantly distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The common bile duct is not clearly visible exiting the gallbladder. It is difficult to follow more distally.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.49 cm. Jejunum wall measures 0.42 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The left limb of the pancreas is normal and isoechoic to the surrounding mesentery. There is no evidence of nodules or cystic lesions.

In the right cranial abdomen, there is a large, ovoid, multiloculated cystic structure measuring approximately 4.63 cm x 2.97 cm. This is visualized caudal to the stomach and medial to the right kidney, potentially in the region of the pancreas. This lesion could represent a pancreatic cyst, abscess, or mass effect, although a clear connection to the pancreas cannot be visualized. There does appear to be a tubular anechoic structure associated with this lesion, which could represent a dilated bile duct or a congested prominent partially obstructed pancreatic duct. The mesentery in this region is significantly hyperechoic. A cystic hepatic lymph node could be an alternate/less likely differential.

Free Abdomen

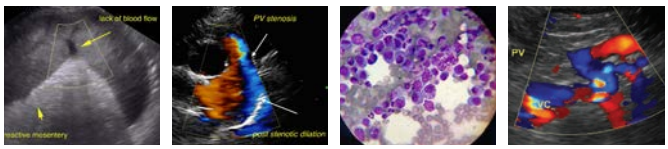
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is hyperechoic surrounding the cystic mass lesion.

PRIMARY FINDINGS

- Heterogeneous, borderline small liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.

- Large, distended gallbladder – While the gallbladder appears relatively normal, I cannot clearly visualize the common bile duct. There is the possibility that there is some congestion secondary to the mass effect described.

- Multiloculated cystic ovoid mass effect in the right cranial abdomen – The nature of this lesion is not clear. This could represent a pancreatic mass/cyst etc.., less likely a mass associated with the bile duct/hepatic lymph node etc. There does appear to be a hypoechoic tubular structure associated with this, which could represent a dilated bile duct, pancreatic duct, etc.



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SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with pinpoint non-obstructive nephroliths - The bilateral renal findings are consistent with age-related change.
- Occasional hyperechoic lesion within the spleen – Findings are most consistent with benign myelolipomas.

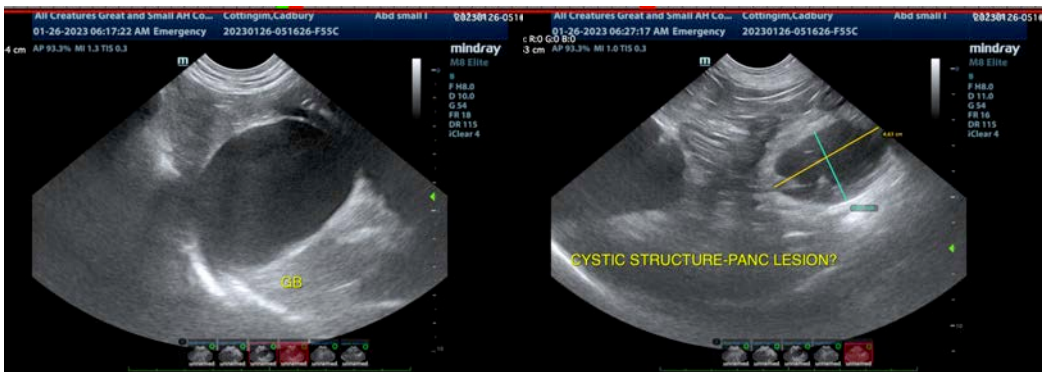
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver appears somewhat small and heterogeneous. This is a non-specific finding but could be supportive of a primary hepatopathy. Additionally, the gallbladder is significantly distended, but I am unable to clearly follow the bile duct to determine if a more distal obstruction could be present. There is a cystic mass effect in the right cranial abdomen in the region of the pancreas and where the bile duct would pass to enter into the duodenum, so there is the possibility of a biliary obstruction but this is thought less likely given the relatively low bilirubin levels.

The cause of the liver enzyme elevations is not 100% clear. The liver itself appears somewhat small and heterogeneous. I am concernd that this could represent chronic liver disease. Correlate this with abdominal radiographs and body conformation (in deep chested dogs much of the liver is visualized intercostally)

Options moving forward would include a contrast CT scan to better evaluate the mass lesion, bile ducts, and liver. Additionally, a fine needle aspirate of the liver (if coagulation parameters are normal) could be considered although a biopsy may be needed in cases of a chronic hepatopathy. Fine needle aspiration of the mass lesion could be considered, but it is largely cystic in nature, which may make a diagnostic sample more challenging. Consider correlating these findings with a quantitative cPL to see if there is evidence of pancreatic inflammation, as the mesentery in this region is significantly hyperechoic.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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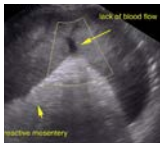
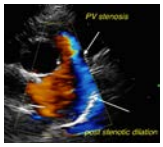
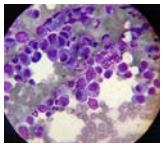
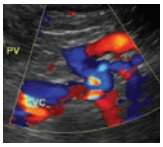

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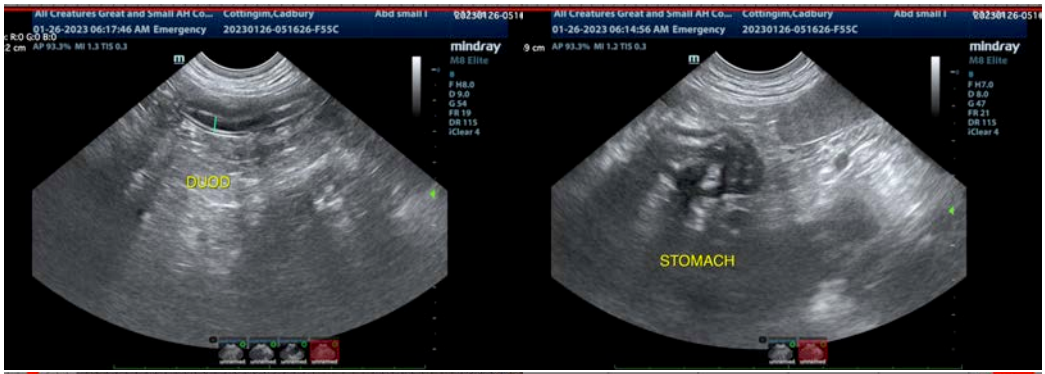

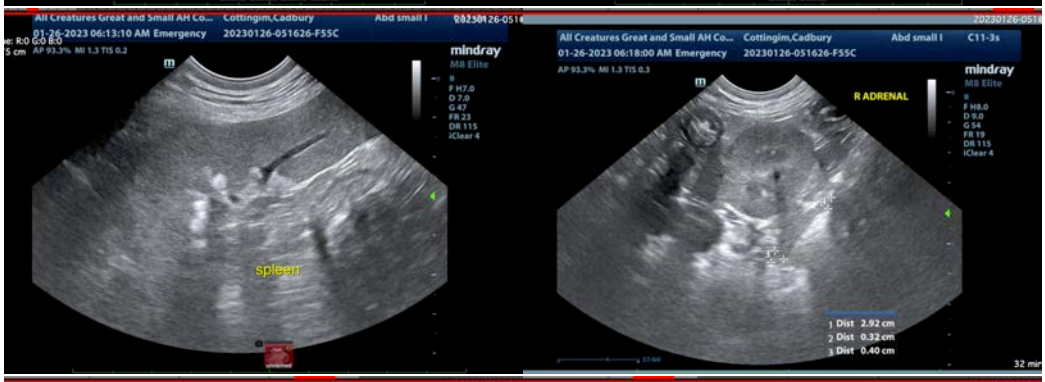

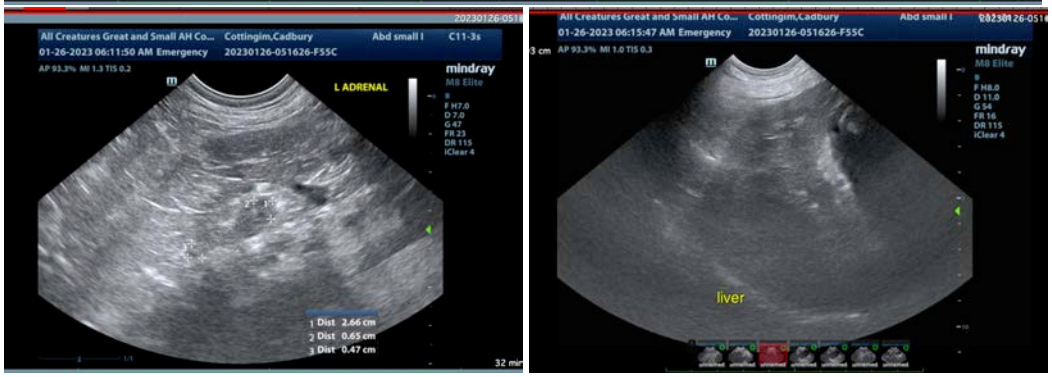

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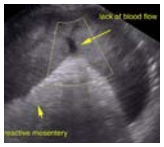
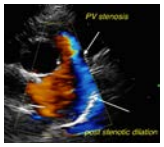
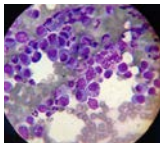
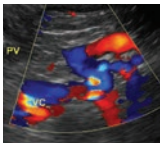

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com