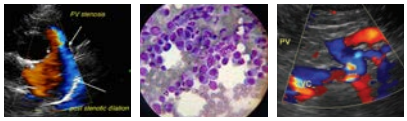
IMAGING PERFORMED BY

IntraPet.com



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DATE

9/14/21

PATIENT

Buddy Goodmuth

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Neutered Male

AGE

5/18/10

WEIGHT

25.2 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Fullerton AH

REFERRING VET

Dr. Levine

INVOICE

25408

PRESENTING CLINICAL SIGNS

History: Slightly pickier eater but noted blood work abnormalities during routine blood work. Hepatic values are increased from what they had been, and patient is now azotemic and had not been in 1/2021.

Current Medications: Denamarin Canine Medium for the past few years. Also, on Cyclosporine 2% ophthalmic ointment.
Lab Results: Attached separately.
Radiographs: Not provided by the veterinarian.
Date of Previous IntraPet Ultrasound: 11-16-2018; 1-2-2017.
Sedation: Sedation not required for scan.
Stat Report: STAT report not requested by the veterinarian.

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 prostate is normal in size and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.91 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.6 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 1.02 at the cranial pole, 1.05 cm at the caudal pole, and 2.19 cm in length. It is observed in its normal position cranial to the left renal artery. It is largely normal in appearance. There is a small hyperechoic foci measuring 0.18 cm in the cranial pole, but the rest of the structure is homogeneous with a discreet mass effect.

The right adrenal gland is normal in size measuring 0.6 cm at the caudal pole, 1.01 cm at the cranial pole, and 2.47 cm in length. 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. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is diffuse speckling with hyperechoic foci. This is likely a benign change.

Liver
The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a 1.3 cm cystic structure visualized on the left side of the liver.

The gall bladder lumen is moderately distended. Some of the areas of the wall appear mildly thickened (0.63 cm) with adherent debris. There is a large amount of non-organized echogenic debris. I'm unable to visualize a significant portion of the common bile duct, but it does appear mildly dilated, measuring 0.61 cm at the level of the duodenal papilla.

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 measured 0.39 cm. Jejunum wall measured 0.31 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 pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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 of normal uniform echogenicity.

PRIMARY FINDINGS

- Large, heterogeneous 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.

- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

- Large amount of gallbladder sludge with early thickening of the gallbladder wall

- Prominent left adrenal gland with small hyperechoic foci in the cranial pole – The left adrenal gland is slightly larger than the right, and previous measurements had the caudal pole and 0.6 cm in 2018. There is no distinct mass effect, but there is possible early Cushing's and/or the adrenal gland should be monitored for continued growth.

SECONDARY FINDINGS

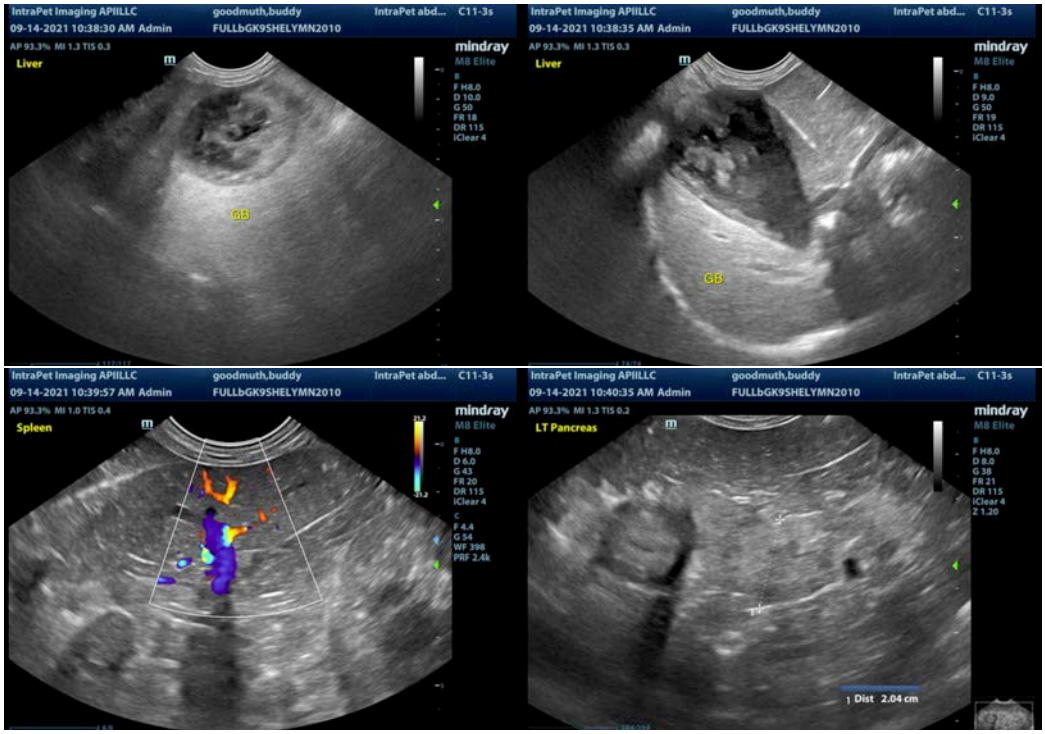
- Prominent, mottled pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

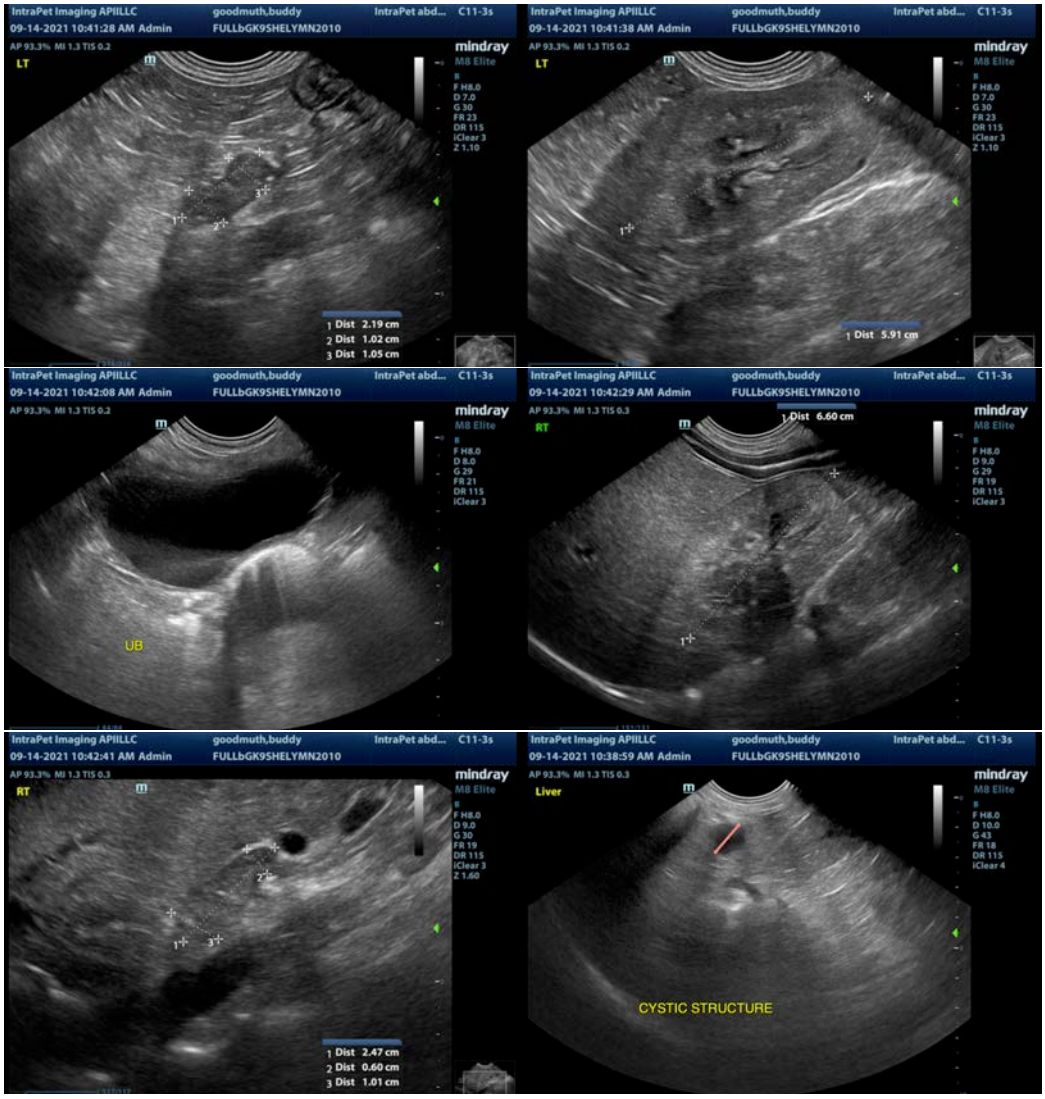
- Mildly mottled spleen with hyperechoic pinpoint foci – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis. These changes likely representa benign process, but should be monitored.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is mottled and heterogeneous. This has been a chronic finding and is likely associated with a vacuolar hepatopathy. Additionally, the adrenal glands have been getting bigger (at least the left one), so there is a possibility of the development of Cushing's disease. Additionally, the gallbladder is getting progressively less normal with a large amount of sludge and early gallbladder wall thickening, which is likely contributing to the ALP elevation. Recommend starting Ursodiol and a course of antibiotics (if not already done) to see if this helps the appearance of the gallbladder or liver enzyme levels.

Additionally, the kidneys have progressively lost detail in the architecture and have become more hyperechoic, consistent with chronic progressive renal changes. Recommend blood pressure, urinalysis and urine culture to look for any concurrent issues. Correlate with USG to determine if this could be partially a prerenal azotemia. Recommend supportive care for renal disease including fluids, nausea medications, etc., and close monitoring of the gallbladder, as future removal could be recommended. Primary hepatic neoplasia cannot be ruled out, but seems less likely. A fine needle aspirate of the liver could be considered in addition to a liver function test and testing for Leptospirosis.





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.

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