

**DATE PRESENTING CLINICAL SIGNS**

2/22/22

Patient has persistently elevated liver values with no symptoms related to the GIT. Does have a history of keroatoconjunctivitis sicca, chronic allergic dermatitis/otitis and a heart murmur.

PATIENT

Current Medications: NeoPolyDex Ophthalmic ointment, Cyclosporine Ophthalmic.

Ivy Williamson

Lab Results: ALT 852, AST 140, ALP, GGT 10, Alb 2.4

Date of Previous IntraPet Ultrasound: No previous

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED****Urinary System**

Pit Bull

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.

SEX

Spayed Female

The left kidney has a normal shape and size (6.77 cm). Overall echogenicity is normal with adequate 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.

AGE

5/22/14

The right kidney has a normal shape and size (6.28 cm). Overall echogenicity is normal with adequate 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.

WEIGHT

57 Pounds

Adrenal Glands**INTERPRETED BY**

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

The left adrenal gland is normal in size measuring 0.71 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.

IMAGING PERFORMED BY

The right adrenal gland is large in size measuring 0.99 cm at the caudal pole, 1.26 cm at the caudal pole, and 3.72 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. Findings are consistent with an enlarged right adrenal gland.

Andi Parkinson RDMS

HOSPITAL NAME

Hickory Vet Hospital

Spleen

The spleen is large 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 an isoechoic, ill-defined nodule visualized in the caudal 1/2 to 1/3 of the spleen, measuring 2.84 cm x 3.22 cm.

REFERRING VET

Dr. Silcox

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. It is irregular in shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The right side of the liver consists of a large, expansile, multinodular isoechoic mass effect measuring >7.5 cm x 8.2 cm.

INVOICE

35808

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation. These changes can be consistent with an early gall bladder mucocele.

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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

There is a scant amount of free abdominal fluid visualized. There is no lymphadenomegaly, and the omentum is generally of normal echogenicity.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Large, heterogeneous liver with isoechoic mass effect – 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. The mass lesion visualized does not significantly deviate the capsule, but nonetheless could represent a benign or neoplastic process.
- Heterogeneous liver with large, expansile, multilobulated right-sided mass effect – 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. The mass effect involving the liver is ill-defined, but large, and is concerning for an underlying cancerous process, although a benign etiology is possible.
- Large distended gallbladder with a moderate amount of biliary debris adhered to the gallbladder wall and early mucocele development. There is no overt inflammation surrounding the gallbladder. Recommend continued monitoring +/- treatment for cholecystitis.
- Large right adrenal gland – Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

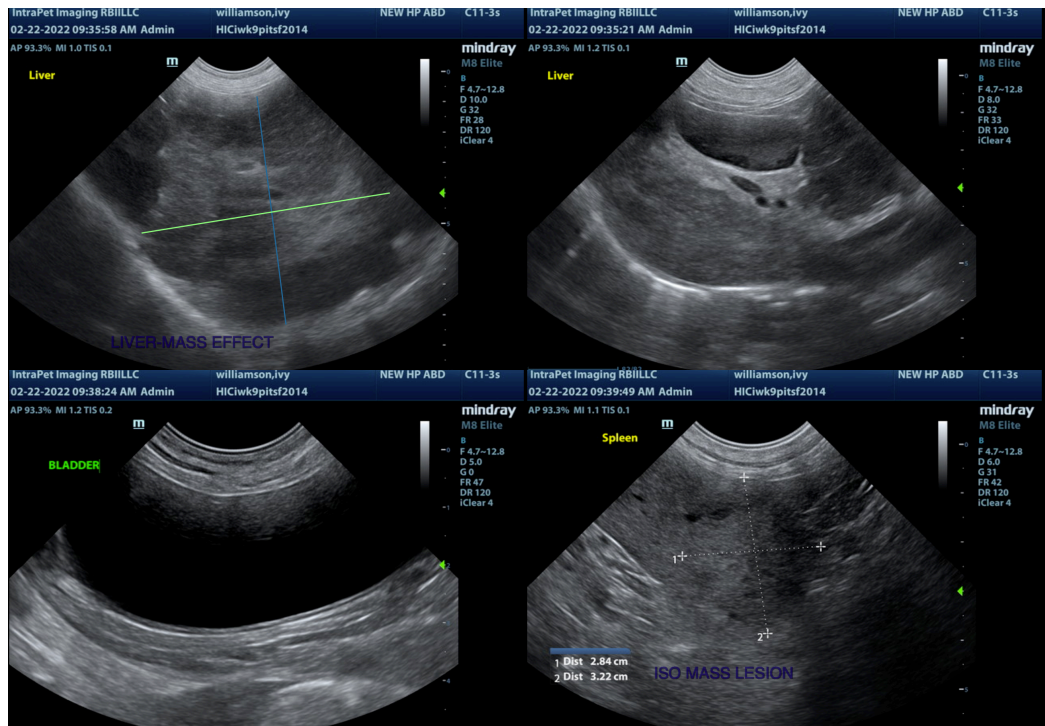
There is a large irregular mass effect on the right side of the liver. This is the likely source of the liver enzyme elevations. Recommend a fine needle aspirate of this abnormal tissue, and if surgical removal would be considered, recommend a contrast CT scan to better determine the feasibility of surgical removal.

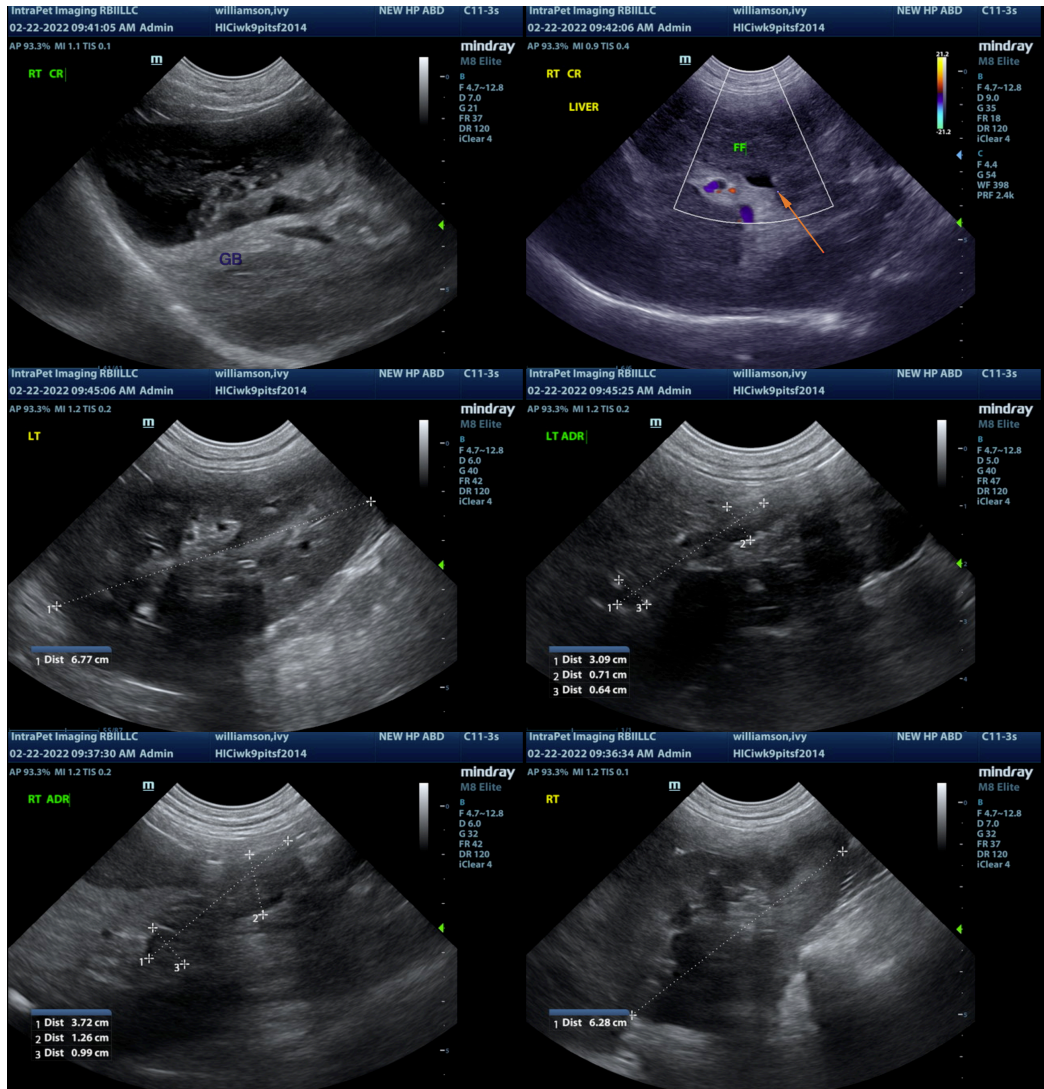
The spleen is large and mottled with an isoechoic mass effect. Options moving forward include either a fine needle aspirate of splenectomy for both diagnostic and therapeutic purposes.

The right adrenal gland is large. It is fairly normal in shape with no evidence of vascular invasion. Options moving forward include either continued monitoring with blood pressure evaluation, or more complete evaluation including adrenal function testing and advanced imaging to evaluate for the possible need of surgical removal.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

Based on the low albumin level, there is concern for significant liver dysfunction. Recommend a pre- and post-prandial bile acids as well as screening urinalysis to look for evidence of significant proteinuria (if significant proteinuria is present, recommend a urine protein/creatinine ratio), and consider a GI panel to Texas A&M to evaluate for possible evidence of occult GI disease.





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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