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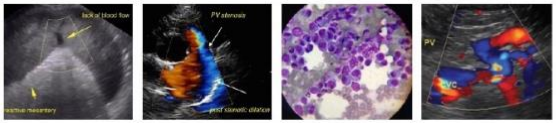


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Lucy Lahey

SPECIES

Canine

BREED

Maltese X

SEX

Female Spayed

AGE

7 years

WEIGHT

6.8 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Burlington Lakeshore VH

REFERRING VET

Aziz

INVOICE

14049

DATE

8.10.23

PRESENTING CLINICAL SIGNS

History: Elevated liver enzymes.
Abnormal PE/Chem/CBC/UA Results: ALP 429(5-161), ALT 413(6-118), AST 102 (5-71) Gamma GT 52.0(0.00-7.0)

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 2 cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (4.08 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.

The right kidney has a normal shape and size (4.67 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.

Adrenal Glands

The left adrenal gland is normal in size (0.41 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 (0.57 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, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

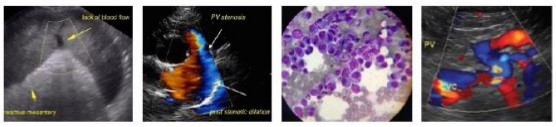
Liver

The liver is subjectively large 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. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended with a small-to-moderate amount of intraluminal debris which appears adherent to the gallbladder wall. The bile duct appears slightly tortuous and dilated (measuring up to 0.54 cm). Distally, there is a structure which is most consistent with an enlarged duodenal papilla (measuring approximately 0.67 cm). It appears to be associated with the pyloric region and possibly shadowing material visualized within the stomach/pylorus in this region.

Gastrointestinal

The stomach contains large shadowing ingesta. It measures at a normal thickness of <0.7 cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is



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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 0.3-0.5 cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47 cm) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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 in the right limb 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.

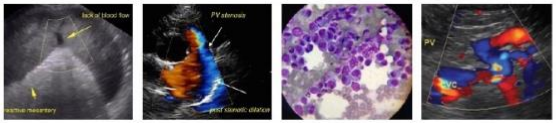
ULTRASONOGRAPHIC FINDINGS

- Prominent mottled right limb of the pancreas - The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Large hyperechoic liver – The diffuse hepatic changes are non-specific and can be seen with vacuolar hepatopathy, reactive change, nodular hyperplasia or, less likely, inflammatory/immune-mediated disease, infiltrative neoplasia, or other hepatopathy.
- Moderate gallbladder debris with debris adherent to the gallbladder wall as well as a dilated, slightly tortuous bile duct, and prominent duodenal papilla – Findings could be consistent with mild cholecystitis. Visualized of the duodenal papilla and bile duct is obscured by the shadowing material visualized within the gastric lumen.
- Large volume of shadowing material within the gastric lumen – Correlate with the feeding history. If the patient was adequately fasted, correlate with abdominal radiographs, as this could represent atypical ingesta and ingested fecal material, etc.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver itself appears somewhat hyperechoic. This is a nonspecific finding. No significant focal parenchymal lesions are observed. Consider further evaluation for a primary hepatopathy with the following:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...



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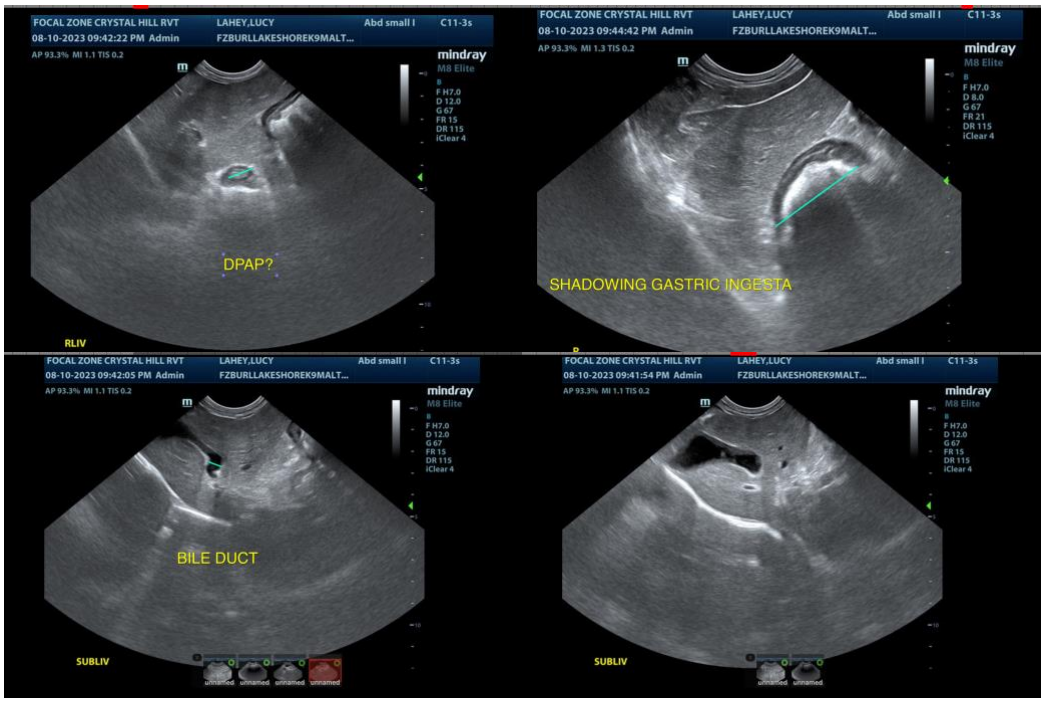
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history.
- If not already done, consider pre and post prandial bile acids to evaluate liver function.
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics, +/- ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

Additionally, the gallbladder and the bile duct appear slightly abnormal, with some adherent debris and dilation. The duodenal papilla is difficult to visualize and appears somewhat prominent, possibly associated with some of the shadowing material within the cranial GI tract. Consider treatment for cholecystitis with Ursodiol +/- a course of antibiotics and probiotics and continued monitoring of the liver enzyme values as well as a reevaluation of the duodenal papilla, when the stomach is empty. This enlargement could be artifactual, but a mass effect, mucous plug, etc., at the level of the duodenal papilla cannot be ruled out.



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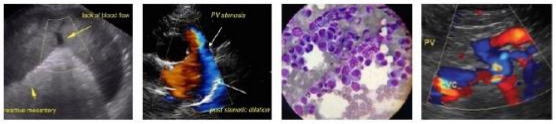

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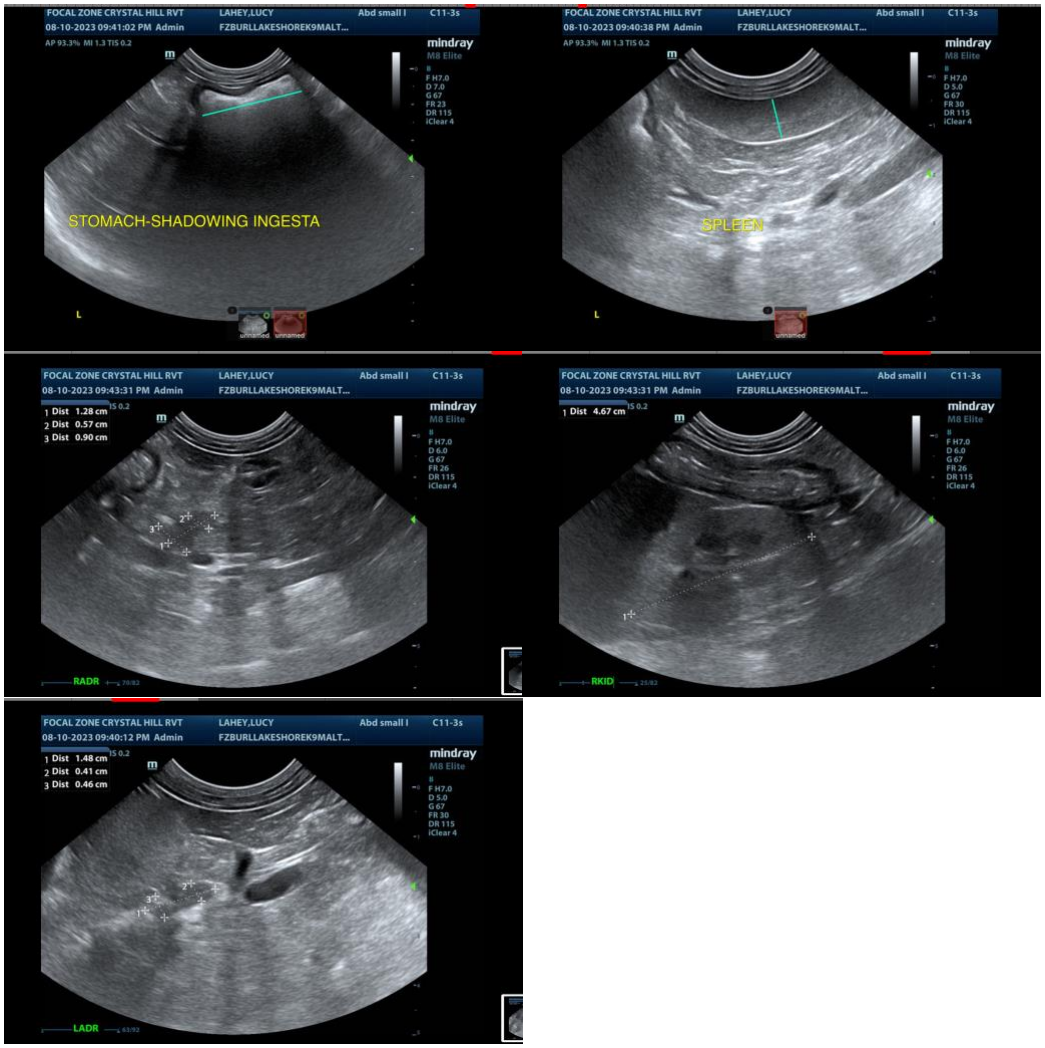

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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