



PATIENT PRESENTING CLINICAL SIGNS

Bonnie Baills

Patient presents for increasingly elevating liver enzymes and inappetence which is very unusual for this patient. Current meds: Cerenia, mirtazapine, Milk Thistle/Denamarin, Convenia (for skin), and Gabapentin.

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: ALT 196, ALP 394, GGT 17.

BREED

Mixed

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

SEX

Spayed Female

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.45 cm), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, masses or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

AGE

12 Years

The left kidney has a normal shape and size (5.75 cm). Overall echogenicity is normal with adequate 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, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

43 Pounds

The right kidney has a normal shape and size (5.35 cm). Overall echogenicity is normal with adequate 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, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is normal in size measuring 0.53 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 0.54 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.

IMAGING PERFORMED BY

Kelly Vazquez

Spleen

HOSPITAL NAME

Ramapo Valley AH

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 are two hypoechoic lesions visualized within the parenchyma, one measuring 0.62 cm x 0.65 cm. Another measures 0.50 cm x 0.84 cm.

REFERRING VET

Dr. Katara

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 2.05 cm x 2.4 cm anechoic cyst visualized, likely consistent with a benign hepatic cyst.

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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

DATE

9/1/22



PATIENT

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Gastrointestinal

SPECIES

Canine

The stomach contains minimal luminal contents. The stomach wall is prominent, measuring at the upper end of normal at 0.69 cm. 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.

BREED

Mixed

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 0.50 cm. Jejunum wall measures 0.41 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

SEX

Spayed Female

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.

AGE

12 Years

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.

WEIGHT

43 Pounds

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.

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ULTRASONOGRAPHIC FINDINGS

- Mildly thickened urinary bladder wall – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Mottled spleen with two hypoechoic lesions – 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.
- 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.
- Borderline thickened gastric wall – The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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No focal lesions are visualized associated with the liver or gallbladder. The liver is mildly heterogeneous. This could be consistent with age related change or primary hepatopathy. Consider 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

SPECIES

Canine

- If not already done, consider pre and post prandial bile acids to evaluate liver function

BREED

Mixed

- 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)

SEX

Spayed Female

It is also possible that there is a reactive hepatopathy going on, and there is a different primary problem causing the symptoms described.

AGE

12 Years

The spleen appears somewhat mottled with two hypoechoic lesions. Consider a fine needle aspirate of the spleen +/- the lesions.

WEIGHT

43 Pounds

Additionally, there is the possibility of small intestinal disease. The gastric wall is at the upper end of normal limits. This could be normal for this individual or could be indicative of gastritis or an abnormality associated with the gastric wall. Other primary GI disorders such as dietary intolerance/food allergy, GI parasitism, chronic pancreatitis, IBD, and less likely intestinal neoplasia are possible. Consider the following:

- GI panel
- Novel protein/hydrolyzed protein prescription diet
- Chronic probiotic therapy
- If test results are suggestive of primary GI disease, you could consider obtaining GI biopsies

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The bladder wall appears somewhat thickened and irregular. Recommend urinalysis and culture.

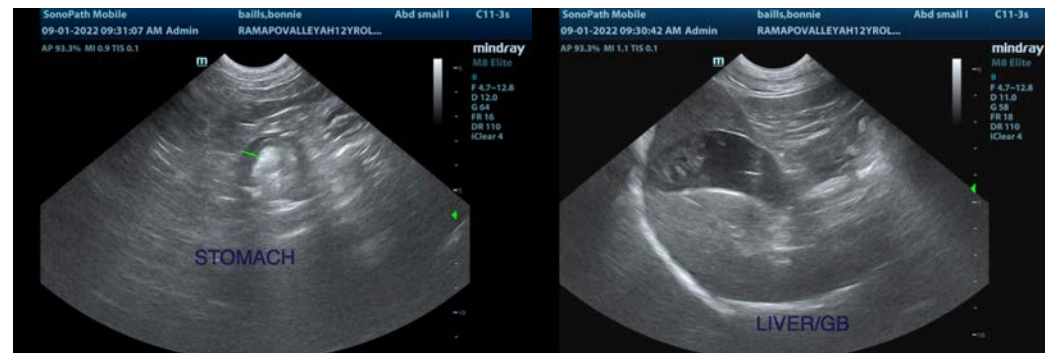
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Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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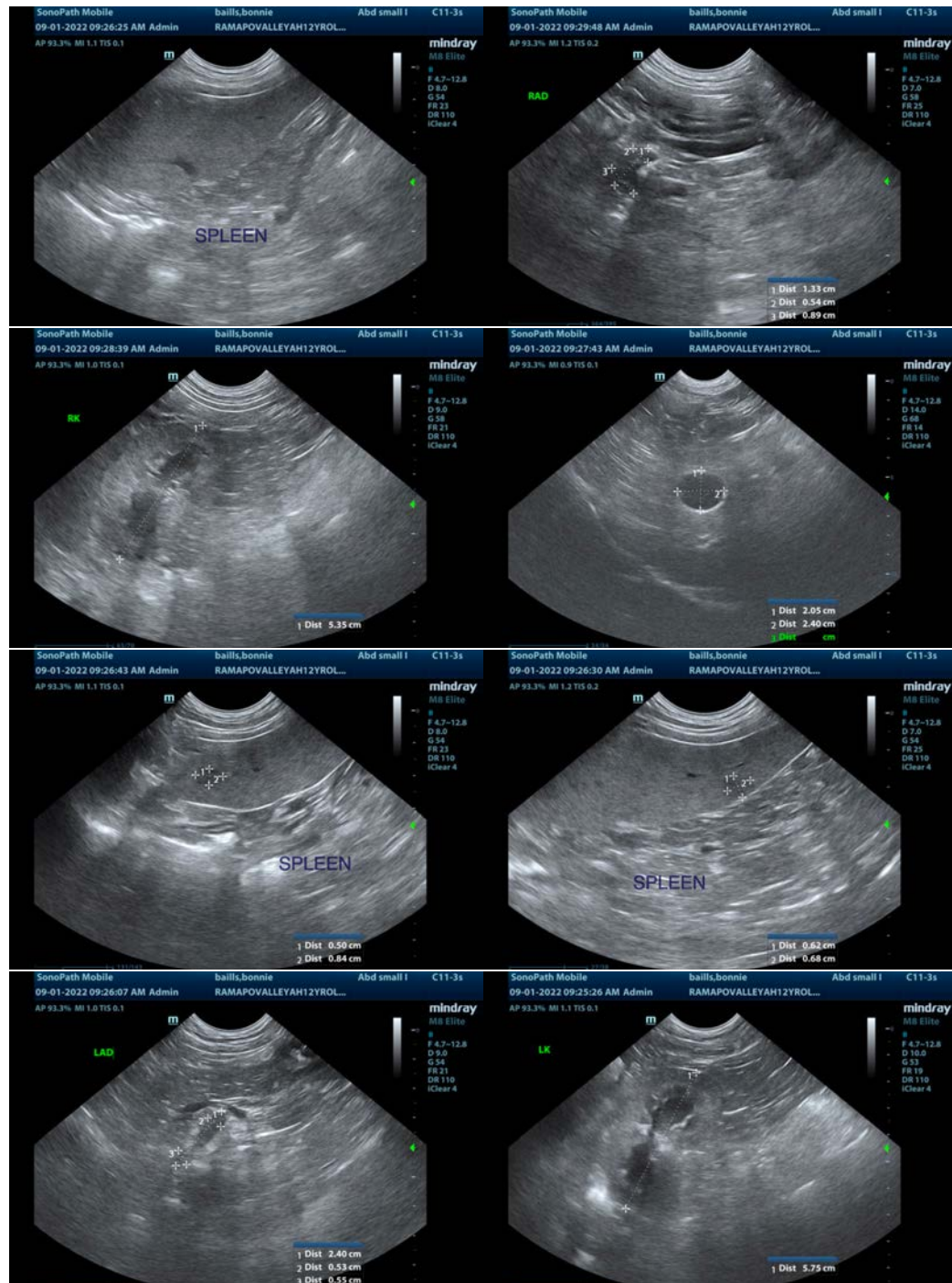
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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