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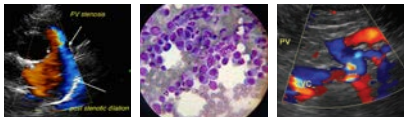

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DATE

5/25/22

PATIENT

Amber Andrews

SPECIES

Canine

BREED

Australian Shepherd

SEX

Spayed Female

AGE

6/1/09

WEIGHT

31.6 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Taylorsville Vet Clinic

REFERRING VET

Dr. Bray

INVOICE

37949

PRESENTING CLINICAL SIGNS

Came in for yearly Exam and BW was abnormal. Hypoalbuminemia may be from PLE. Recommend to do AUS.

Current Medications: None listed.
Lab Results: CBC: stress leukogram, WNL. Chem: Slight increase in SDMA, BUN and creat stable. SDMA elevation in past with likely mild renal changes, Na slightly decreased, likely normal for p, Mild hypoalbuminemia, PLN or PLE vs decreased production or absorption
Need urine to eval proteinuria. TT4: WNL, 4Dx: nx4, MF neg, fecal neg
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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 left kidney has a normal shape and size (4.44 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 (4.27 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 normal in size measuring 0.67 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 0.73 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 normal in size, and echogenicity with smooth peripheral margins. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is an ill-defined, isoechoic rounded lesion with a hyperechoic rim. This lesion measures 2.45 cm x 2.69 cm and is visualized within the parenchyma.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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 uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measured 0.35, 0.39 cm. Duodenum wall meaures 0.64 cm. There is a very rare/occasional mucosal speckle visualized. 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

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

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Mildly heterogeneous liver with an isoechoic lesion with a hyperechoic ring – 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 nature of the poorly defined lesion is unable to be determined. If possible, consider fine needle aspirate.
- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Mild to moderate small intestinal thickening – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).

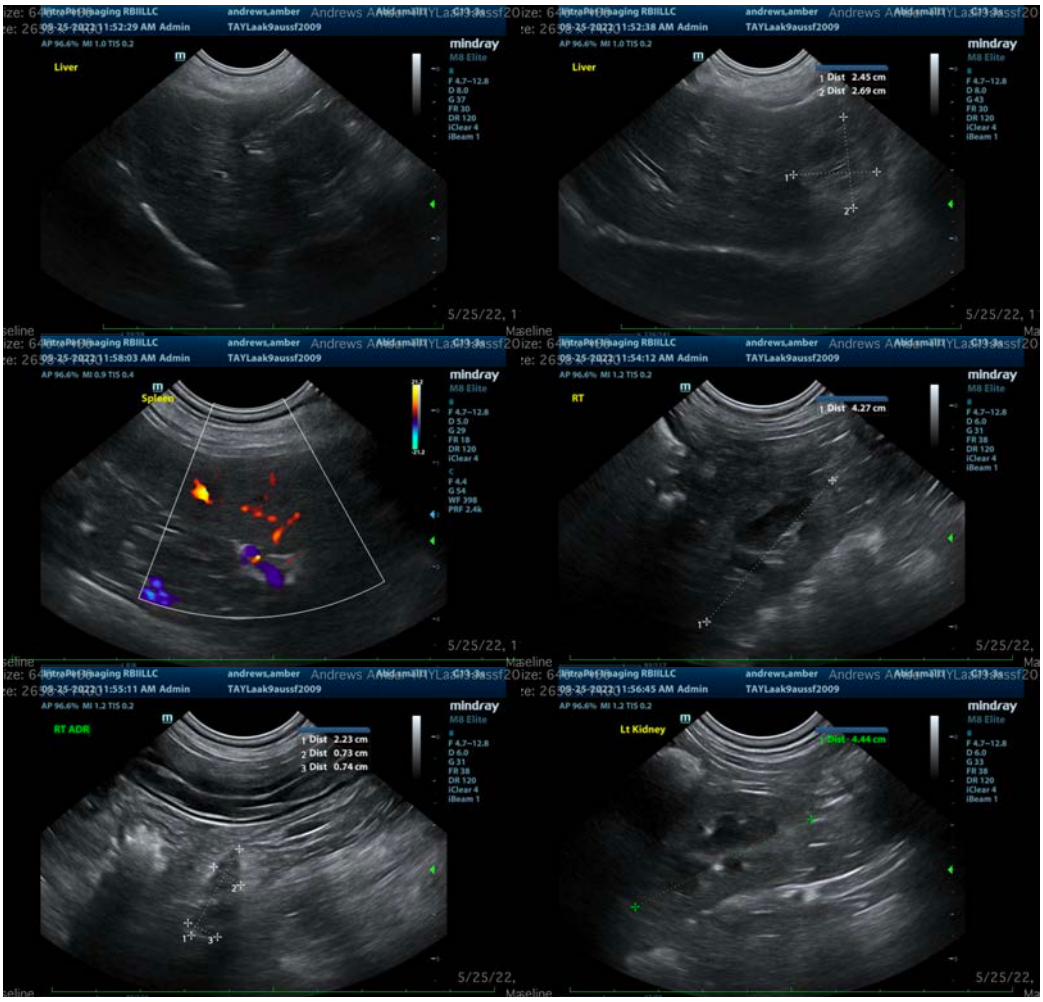
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

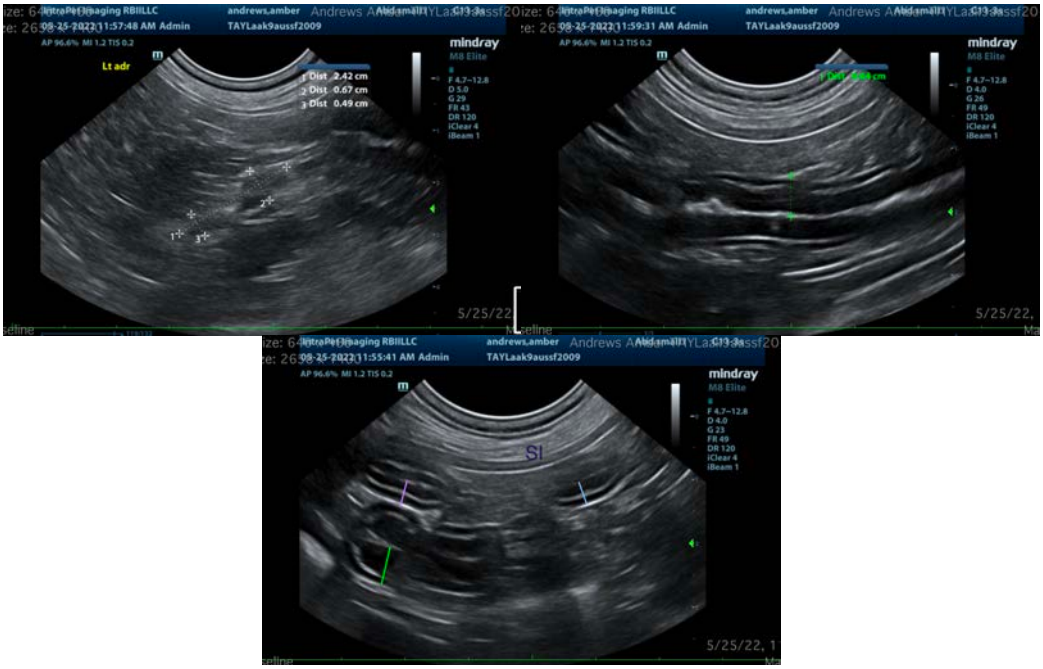
The lesions observed on today's scan are relatively mild. There is an atypical ill-defined, rounded, isoechoic lesion with a hyperechoic rim visualized in the liver. If possible, consider a fine needle aspirate of this lesion and continued monitoring with ultrasound. Additionally, there are some age related changes associated with the kidneys, and the small intestine appears subjectively thickened with no focal lesions.

Based on the history provided, there is a hypoalbuminemia present. Today's scan does not definitively identify the source of this low albumin. The urinalysis does not show evidence of proteinuria (you could

consider a urine protein to creatinine ratio to double check this). I would recommend a liver function test and a GI panel to Texas A&M with qualitative PLI, TLI, cobalamin and folate to look for evidence of small intestinal disease. If liver function is normal and a urine protein to creatinine ratio is normal, then a protein losing enteropathy would be most likely, but it is somewhat atypical to not have significant GI signs nor low globulin levels.

Recommend 3-view thoracic radiographs, further evaluation or close monitoring of the liver lesion, and if the source of the hypoalbuminemia can be identified, either GI biopsies, liver biopsies, etc. Initially, a novel protein or hydrolyzed protein prescription diet could be initiated with recheck albumin levels in 4-6 weeks.





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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