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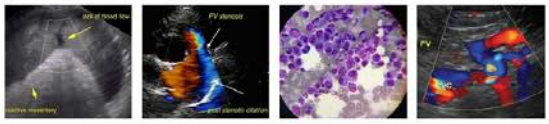


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Zero Harper

SPECIES

Canine

BREED

American Bulldog

SEX

Neutered Male

AGE

12 Years

WEIGHT

42.7 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Grass Valley VH

REFERRING VET

Dr. Kristi Cortright

INVOICE

43936

DATE

7/12/23

PRESENTING CLINICAL SIGNS

Sedated 0.2ml dexdomitor/0.5ml butorphanol IV-Diarrhea last few days- eating Hills I/D kibble and little Cesars food- P presented for GI issues- Gassy after eating purina bone- Off/on diarrhea- Low energy- Eats greenies. MEDS- apoquel 16mg SID, Benadryl 75mg BID
Abnormal PE/Chem/CBC/UA Results: USG 1015, proteinuria- ALP 992

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 visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (7.7 cm). Overall echogenicity is slightly hyperechoic with poor 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.

The right kidney has a normal shape and size (7.69 cm) with a small cotical cyst visualized measuring 0.61 cm. Overall echogenicity is slightly hyperechoic with poor 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.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.85 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.

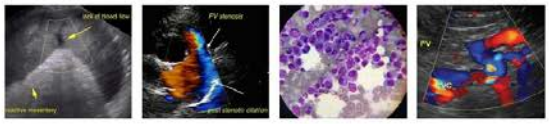
The right adrenal gland is normal in size measuring 0.92 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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. There is a small, ill-defined, irregular, mixed echogenic hyperechoic lesion visualized within the parenchyma, measuring 2.38 cm x 1.88 cm. Additionally, there is a small hypoechoic nodule visualized measuring 0.85 cm x 1.2 cm.

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. No focal nodules or cystic lesions are observed.



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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 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 0.45 cm. Jejunum wall measures 0.25 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. There is no observed focal or generalized colon wall thickening or loss of layering. Colon wall measures at 0.24 cm and there is non-formed fecal material in the lumen.

Pancreas

The right limb of 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

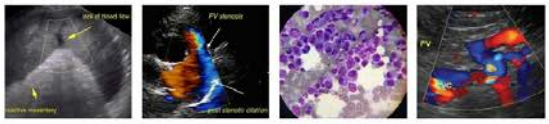
Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a cystic lymph node visualized in the mid dorsal abdomen measuring 1.72 cm x 3.73 cm. Additionally, the pancreaticoduodenal lymph node is prominent at 0.81 cm x 0.93 cm. The omentum is generally of normal echogenicity.

Other

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

ULTRASONOGRAPHIC FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Small, ill-defined, mixed echogenic, hyperechoic nodule and a small hypoechoic nodule visualized within the splenic parenchyma – There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis. The mixed echogenic hyperechoic lesion has the appearance of a benign myelolipoma, but continued monitoring is warranted.
- Prominent, mottled right limb of the pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.



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- 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.
- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Occasional prominent mesenteric lymph node visualized and a cystic abdominal lymph node is visualized – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A focal cause for the diarrhea and lethargy reported is not visualized. The changes observed associated with the kidneys and the gallbladder are likely incidental at this time.

The significance of the hypoechoic nodule in the spleen is uncertain. Options moving forward would include a fine needle aspirate or continued monitoring with ultrasound.

The right limb of the pancreas is somewhat prominent but there is minimal surrounding inflammation. These changes could be consistent with mild pancreatic inflammation or previous episodes of pancreatic inflammation. Correlate with a quantitative cPLI level.

The changes to the liver are non-specific. No focal lesions are observed. Given the elevation in ALP, this could be consistent with a vacuolar hepatopathy, although if symptoms persist you could consider a liver function test and a fine needle aspirate of the liver to look for any evidence of infiltrative neoplasia or more significant liver disease.

Unfortunately, there are many causes for diarrhea that cannot be diagnosed by ultrasound alone. Consider the following:

Consider such differentials as food allergy/dietary intolerance, GI parasitism, pancreatitis, dysbiosis, recurrent dietary indiscretion, IBD and less likely neoplasia, etc….

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic probiotic therapy.

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

If the above steps are taken and the diarrhea persists, and an underlying metabolic disease is thought unlikely, you could consider obtaining GI biopsies.

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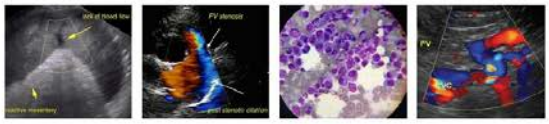

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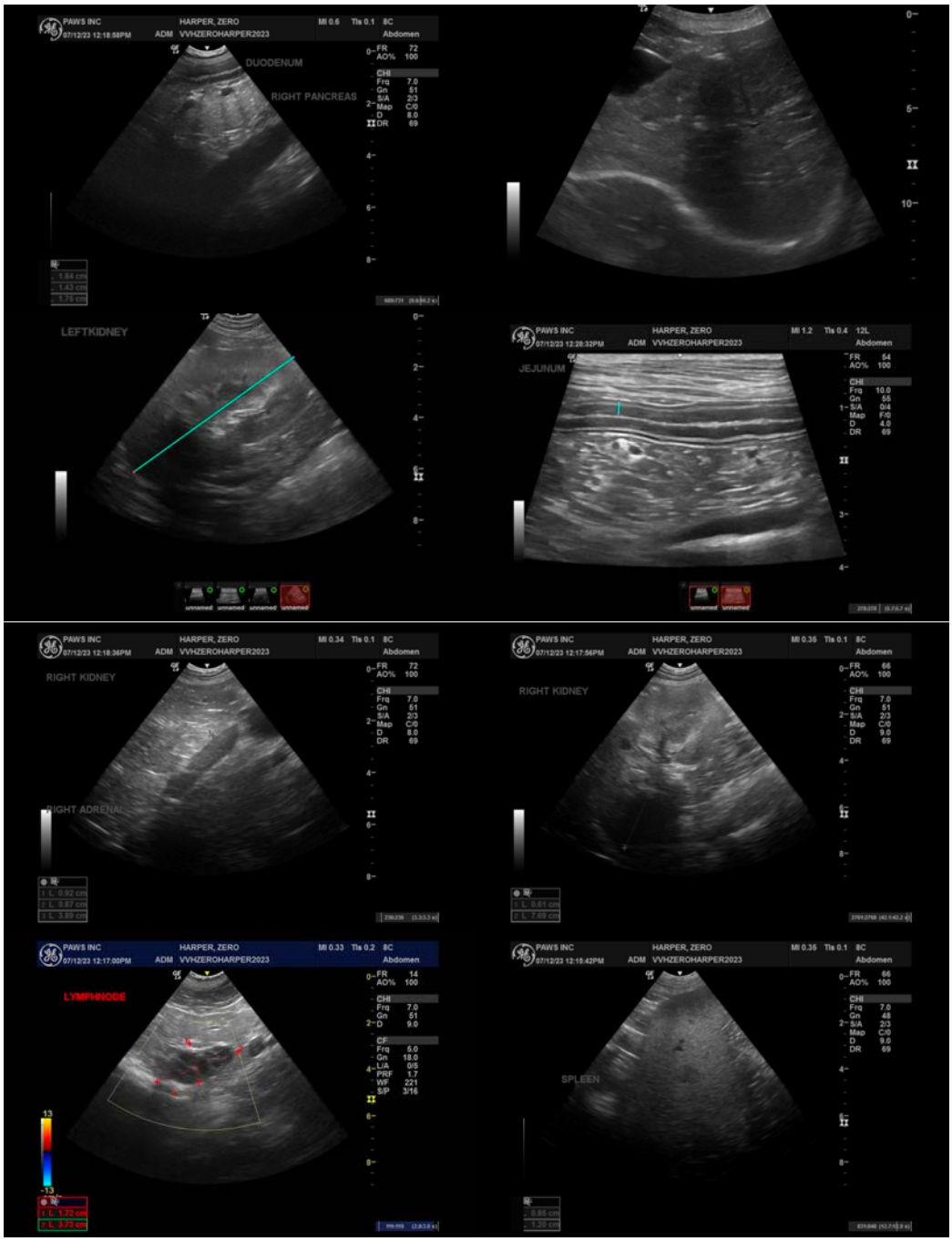

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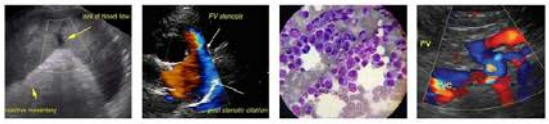

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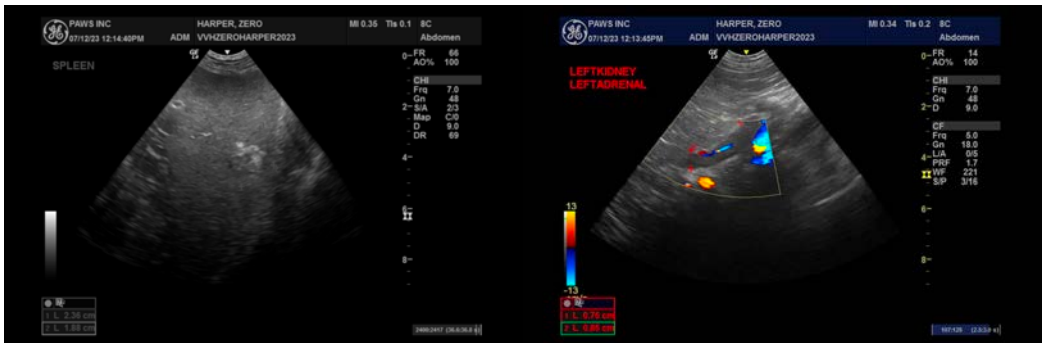

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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