



**PATIENT**

Junior Saldiva

**SPECIES**

Canine

**BREED**

Staffordshire Terrier

**SEX**

Neutered Male

**AGE**

7 Years

**WEIGHT**

53

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Mayra Sanchez

**HOSPITAL NAME**

Sunset AH

**REFERRING VET**

Mayra Sanchez

**INVOICE**

17916

**DATE**

11/7/22

**PRESENTING CLINICAL SIGNS**

History: Chronic intermittent episodes of vomiting, hyporexia, and diarrhea Most recent episode began when patient developed severe otitis Response to hypoallergenic diet and GI protectants is variable

Abnormal PE/Chem/CBC/UA Results: PE: Otitis CBC: NAF Chem 10/25/22: ALT 566, CRE 1.6 cPL: Normal USG: 1.042

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.36 cm). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

The area of the prostate is examined without evident pathology.

Left kidney is normal is size (5.46 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

Right kidney is normal is size (5.91 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

**Adrenal Glands**

Left adrenal gland is unable to be well visualized in these images.

Right adrenal gland is unable to be well visualized in these images.

**Spleen**

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

Liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**Gastrointestinal**

Fundic mucosal hypertrophy with hyperechoic mucosa and some mucosal remodeling is noted. There is no loss of mural detail. Layering is normal. There is mild luminal fluid accumulation. No evidence of masses/nodules or foreign material present.



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The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

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The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**Free Abdomen**

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There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**ULTRASONOGRAPHIC FINDINGS**

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**Primary Findings**

- Medullary rim sign bilaterally - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- Gastritis - Consistent with irritation secondary to dietary indiscretion or intolerance, infection (bacterial, viral, other), parasitic or protozoal disease, toxin, other metabolic disease such as pancreatitis, other. Microulceration cannot be ruled out.

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**Secondary Findings**

- Chronic Cystitis - Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.
- An obvious cause for the reported increased liver enzymes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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Given this patients reported chronic gastrointestinal signs, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

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Given the ALT change and kidney changes, testing for Leptospirosis is indicated if not recently evaluated. Bile acids are also recommended. Pending results, a fine needle aspirate of the liver could be considered if patients coagulation status is appropriate, to assess inflammatory cell type, rule in/out round cell neoplasia, etc. If a diagnosis is not obtained cytologically and liver enzymes progress, a liver biopsy, including copper level assessment may be required to definitively diagnose the underlying hepatopathy. If that course of action is elected, biopsies of the GI tract should be obtained at the same

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time, as normal appearing bowel ultrasonographically does not rule out infiltrative inflammatory bowel disease.

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In the meantime, empirical medical symptomatic/supportive care is recommended in the form of antiemetics, gastroprotectants, a probiotic such as Provable or Visbiome, empirical deworming with a 5-day course of Panacur and hepatic nutraceuticals. If there was partial response to a transition in diet, then an alternative diet may be tried as some patients respond to one brand of a diet over another. Recommendations are to begin with a different hydrolyzed protein diet.

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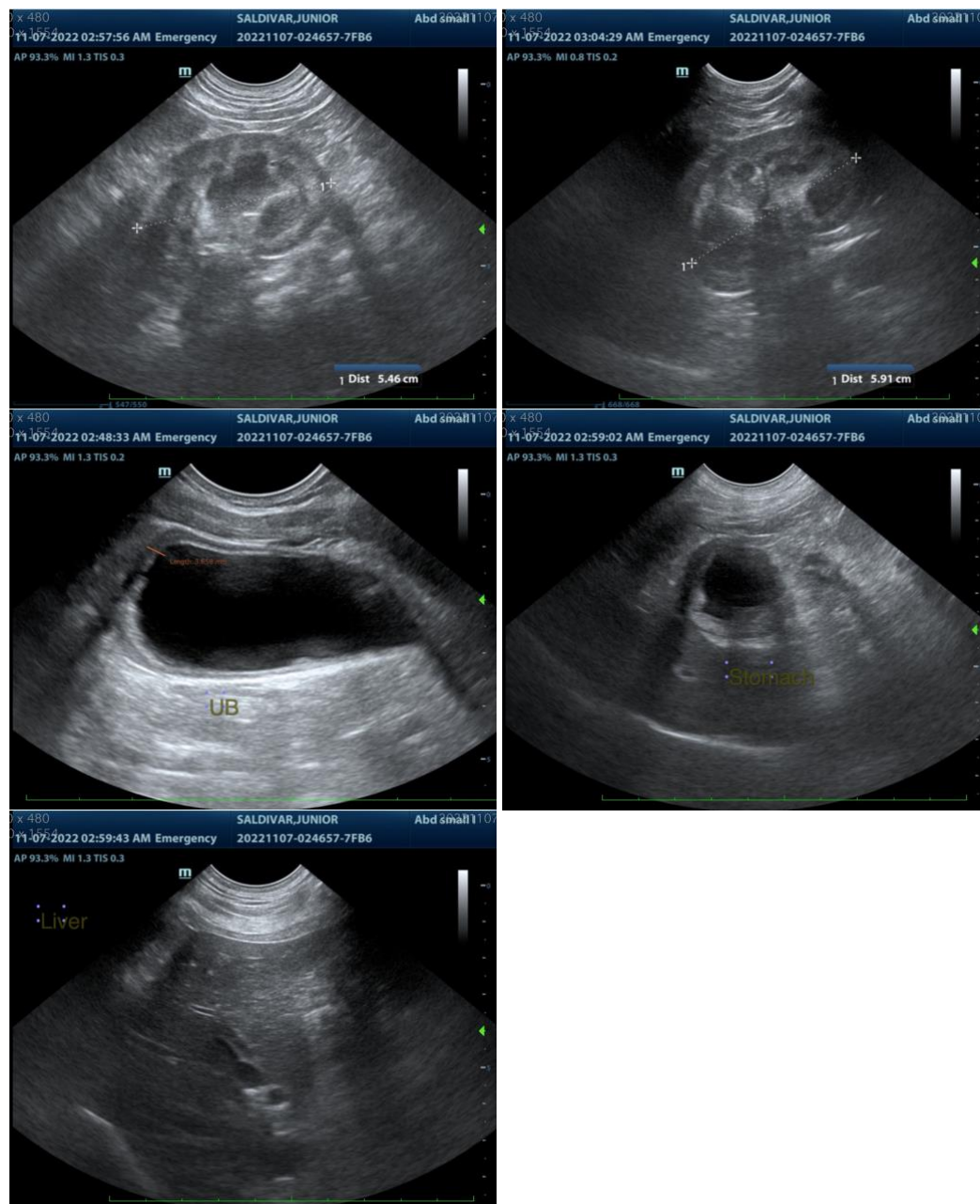
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not



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visible in the image/video clips provided.

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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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