



**PATIENT**

Owen Santiago-Adams

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Male

**AGE**

11 Years 7 Months

**WEIGHT**

3.75 Pounds

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Dr. Jonathan Moss

**HOSPITAL NAME**

Harvest Hills VH

**REFERRING VET**

Dr. Jonathan Moss

**INVOICE**

38009

**DATE**

5/26/22

**PRESENTING CLINICAL SIGNS**

Pt presented for weight loss and decreased appetite. Started roughly 1 month ago and had 2 other sick dogs so was less concerned about him at the time and appetite has continued to decrease to the point of him not eating much of anything for the last 3 weeks. O feels like pt is drinking more water and maybe UR more but no accident in house but is asking to go outside more. Our last weight on him previously was 5.12lbs on 9/29/21 and was 3.75 on 5/25.

Abnormal PE/Chem/CBC/UA Results: CBC: hct- 52, WBC-14.9, neuts-8.9, monos-3.5, platlets-153. Chem: glucose-76, Creat-0.6, BUN-10, TP-8.8, alb-2.0, Glob-6.7, ALT-578, alp-1754, GGT-37. UA: blood 3+, protein 1+, usg 1.030.

**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 (2.8 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 (3.2 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 measuring 0.43 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. 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 large in size, and normal in 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.

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**Gastrointestinal**

The stomach contains minimal luminal contents. It largely appears to measure at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. In the area of the pylorus and pyloric antrum, there is more questionable focal wall thickening in some areas measuring up to 0.91 cm with decreased distinction of layering. This could be consistent with artifact, rugal fold, or true focal gastric lesion.

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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. Jejunum wall measured 0.28 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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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.

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**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**

3.75 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.

**INTERPRETED BY**

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

**ULTRASONOGRAPHIC FINDINGS**

- Large, 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.
- Questionable gastric wall thickening – The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.
- 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.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver is large and somewhat heterogeneous. No distinct focal lesions are observed. Recommend a liver function test and fine needle aspirate of the liver (provided coagulation parameters are normal) to further evaluate the liver enzyme elevation present and to look for a cause of the hypoalbuminemia reported.

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There is a questionable area of wall thickening in the stomach and the pyloric region. This is not definitive, but given the symptoms reported and low albumin levels, a gastric lesion is possible. Correlate these findings with abdominal radiographs and the results of your other testing. If no other

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cause for the inappetence is noted, you could consider reevaluation and endoscopic or surgical evaluation of the gastric wall (small intestinal and hepatic biopsies should be obtained as well).

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Lastly, consider a urinalysis +/- culture and urine protein to creatinine ratio to evaluate the kidneys as a source for the hypoalbuminemia reported.

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Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

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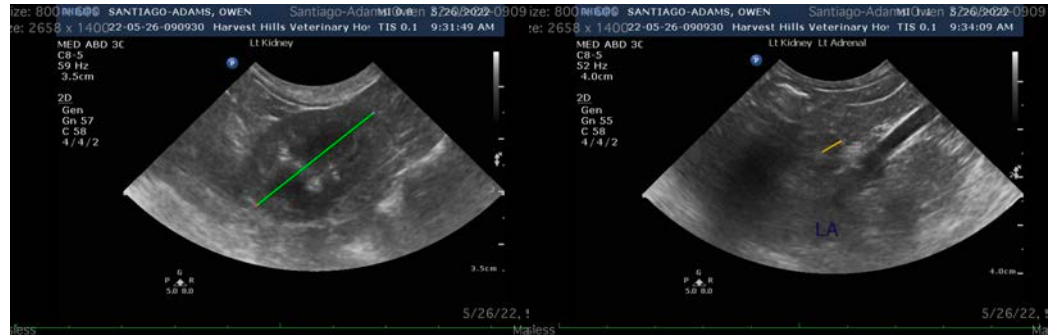
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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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kathleen.sennello@sonopath.com

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