



**PATIENT**

Stan McPherson

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

MN

**AGE**

4

**WEIGHT**

31 kg

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING PERFORMED BY**

Dr Belan

**HOSPITAL NAME**

McKnight AH

**REFERRING VET**

Dr. Gavin

**INVOICE**

14876

**DATE**

9/15/22

**PRESENTING CLINICAL SIGNS**

Anorexic vomiting and restless responds to omeprazole and maropitan meds History of injecting stones

Abnormal PE/Chem/CBC/UA Results: Non diagnostic Ab x rays pending

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, and cystourethral junction exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

No overt pathology was noted in the area of the residual prostate.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. Pinpoint medullary mineral was noted in both kidneys. The left kidney measured 6.1 cm in length. The right kidney measured 5.6 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.78 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.76 cm width at the caudal pole.

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

**Liver/ Gallbladder**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing primarily anechoic content with minor, non-dependent, hyperechoic debris- mineral along with mild nondependent mildly echogenic luminal debris present. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.



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***Gastrointestinal***

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The stomach presented intact yet diffuse prominent wall layering primarily noted in the area of the antrum and pylorus. The stomach contained a mild amount of retained fluid along with suspected mild nonspecific hyperechoic ingesta present in the area of the pylorus to pyloric outflow. Concurrent luminal gas was present. The ventral fundus wall width measured 0.37 cm. The pylorus wall width measured up to 0.8 cm wall width.

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The small intestine presented intact wall layering and primarily maintained a 1:3 muscularis/mucosa ratio. Segmental small intestine exhibited mild to moderate variable retained fluid along with areas of mild nonspecific hyperechoic yet nonshadowing ingesta to echoes primarily in the area of the duodenum and suspected upper jejunum. Concurrent segments of empty small intestine exhibiting intact wall layering and maintained a 1:3 muscularis / mucosa ratio without evidence of mechanical / metabolic ileus were also present. The small intestinal wall width measured 0.29 cm.

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Normal visible colon wall layers were present with apparent formed feces in lumen.

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***Pancreas***

The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

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***Free Abdomen***

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Intermittent mesenteric lymph nodes were present. These lymph nodes were homogenous, mildly hypoechoic and smoothly margined. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was evident. An example of lymph node size was 2.3 cm x 0.8 cm. Small pockets of scant peritoneal free fluid were noted in the caudal abdomen. Mild regional peri intestinal to perilymphatic reactive mesentery was noted.

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**ULTRASONOGRAPHIC FINDINGS**

***Primary Findings***

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- Acute generalized gastroenteritis pattern, gastric and segmental small bowel variable mechanical / metabolic ileus pattern with intermittent nonspecific gastric and segmental intestinal hyperechoic ingesta / echoes

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- Associated mild to variably enlarged mesenteric lymphadenopathy - suspect secondary hyperplasia or reactive lymphadenitis

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- Small pockets of scant free fluid

***Secondary Findings***

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- Mild nonobstructive hyperechoic to nondependent gallbladder debris, potential for mild gallbladder mineral

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the presence of mild gastric and variable segmental small intestinal ileus pattern combined with segments of empty small intestine along with pyloric and focal segmental intestinal hyperechoic



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ingesta/echoes, concern for segmental partial gastrointestinal obstructive pattern and foreign material is warranted.

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Exploratory laparotomy is recommended given this presentation with intestinal biopsies considered essential despite exploratory findings. Hospitalization with 24 hour supportive IV fluid protocol and as-needed gastrointestinal support to correct potential dehydration or electrolyte abnormalities if present, with recheck sonogram in 12-24 hours would be a more conservative approach.

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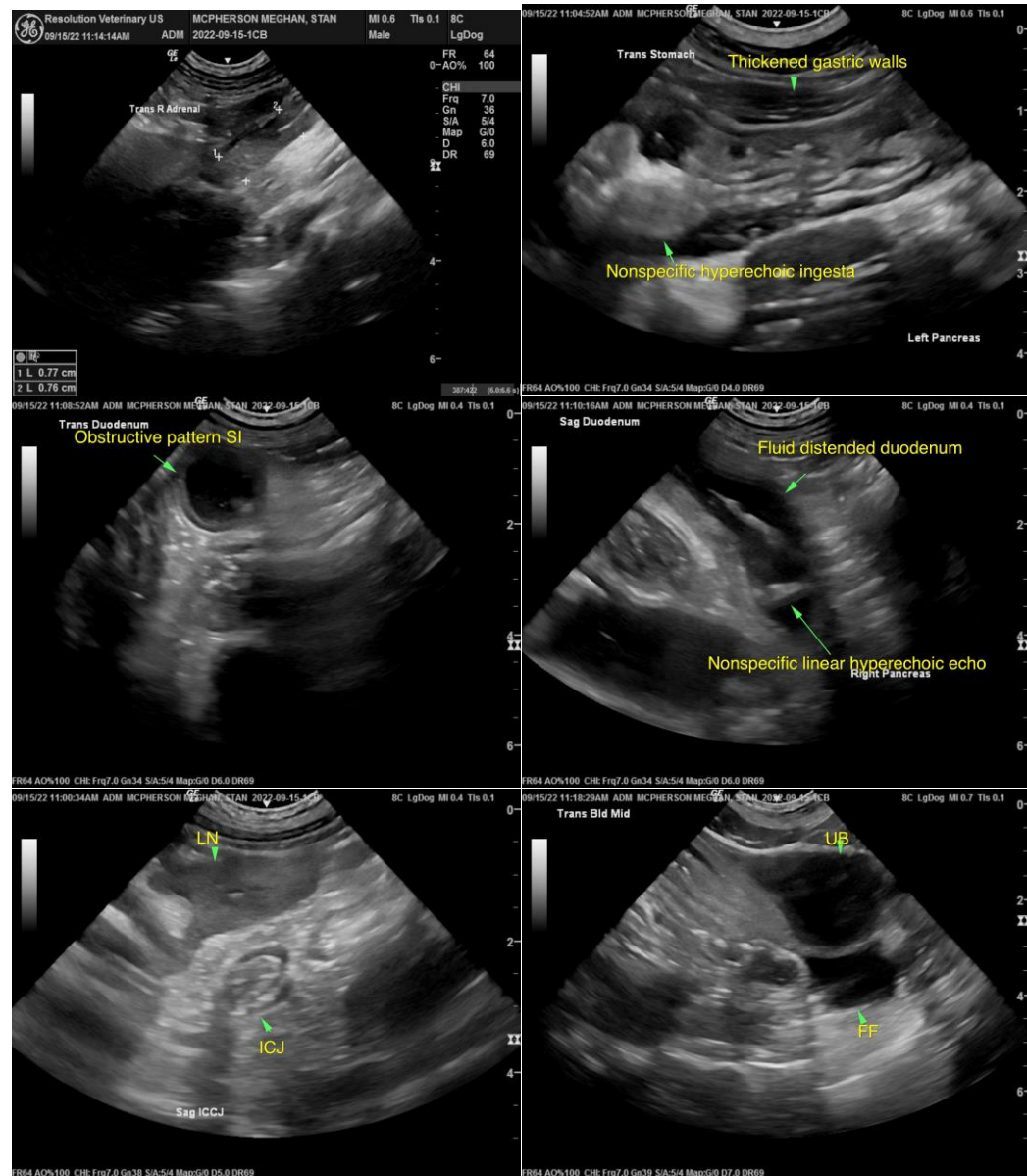
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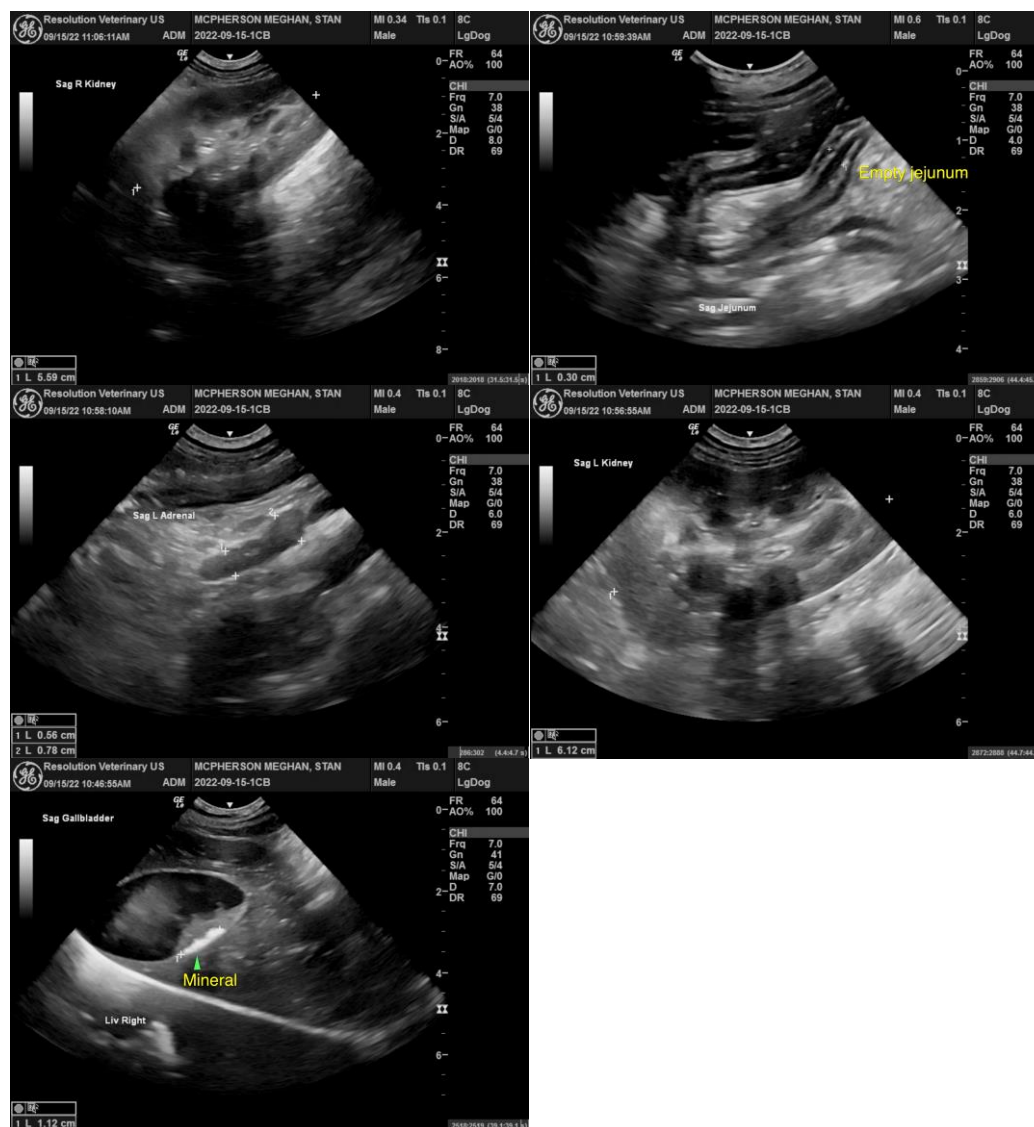
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)  
info@SonoPath.com