

**DATE PRESENTING CLINICAL SIGNS**

9/3/21

Vomiting

PATIENT

Jake Mingle

History: Date: 09-03-2021 Notes: seen at RDVM for panting/seeming uncomfortable. Lab work run-- Liver enzymes were elevated, need to obtain from RDVM. Also was painful/lame , not walking well - back/right hind. Prescribed Adenosyl, Gabapentin, Meloxicam and Provable began to walk better, but now acutely vomiting, numerous times, bile.

SPECIES

Canine

Current Medications: Ampicillin 125mg/vial Injection (Per mL), Pantoprazole (Protonix) 40mg/vial Injection (Per mL), Maropitant Citrate (Cerenia) 10mg/mL Solution Injection (Per mL), Buprenorphine 0.6mg/mL.
Lab Results: Attached separately within request – elevated liver enzymes, PCV 51 %, TS 9.0 g/dL/
Radiographs: Abdomen 2 View- Lateral chest- no obvious changes lateral abdomen --no over mass /fb/obstruction.

BREED

Golden Retriever

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: not needed
Stat Report: not requested

SEX

Neutered Male

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**AGE**

2010

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.

WEIGHT

77.4 Pounds

The prostate is normal in size (1.4 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

INTERPRETED BY

Kathleen Sennello DVM,
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The left kidney has a normal shape and size (7.46 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.

HOSPITAL NAME

Animal Emergency
Hospital

The right kidney has a normal shape and size (7.62 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.

REFERRING VET

Dr. King

Adrenal Glands

The left adrenal gland is normal in size measuring 0.79 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.

INVOICE

25186

The right adrenal gland is normal in size measuring 0.75 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 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.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material, most consistent with normal ingesta and gas. It measures at a normal thickness of 0.64 with some variability due to the presence of rugal folds. The pylorus appears more thickened with a slightly irregular mucosa and less distinction of wall detail with measurements up to 1.18 cm. There is no impression of reduced peristaltic activity. The pylorus appears focally thickened.

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. Duodenum wall measured 0.51 cm. Jejunum wall measured 0.34 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. 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 prominent and hypoechoic as 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, 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.

PRIMARY 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.
- Thickened pylorus with reduced detail of wall layering – wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, or imaging artifact due to rugal folds, etc.
- Subjective mild small intestinal wall 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).

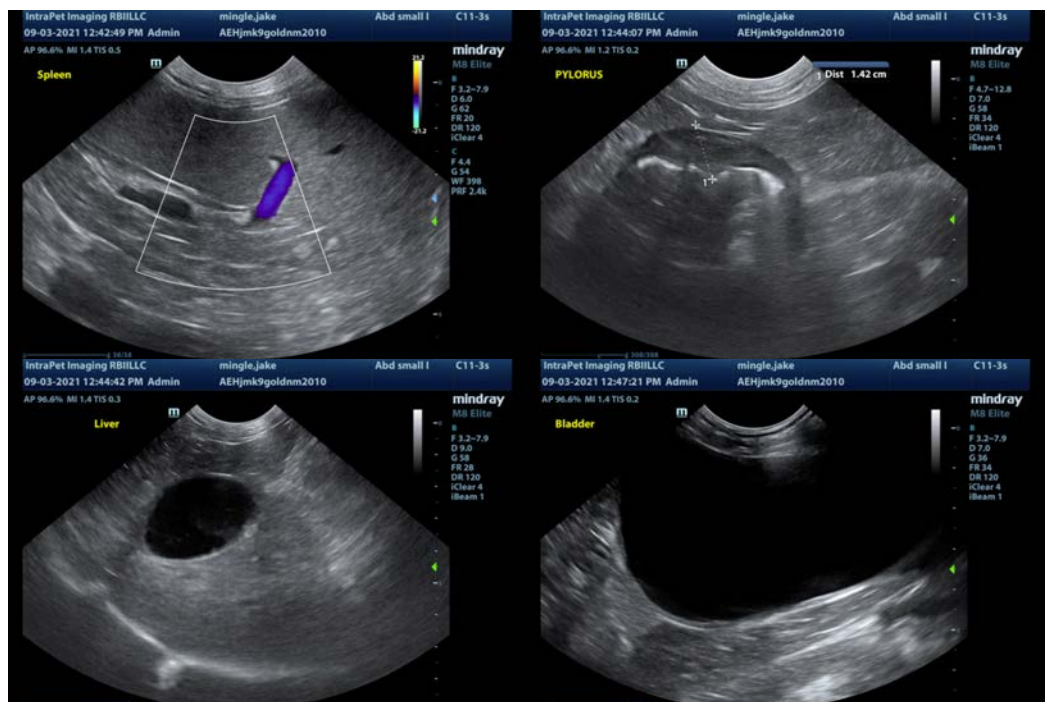
SECONDARY FINDINGS

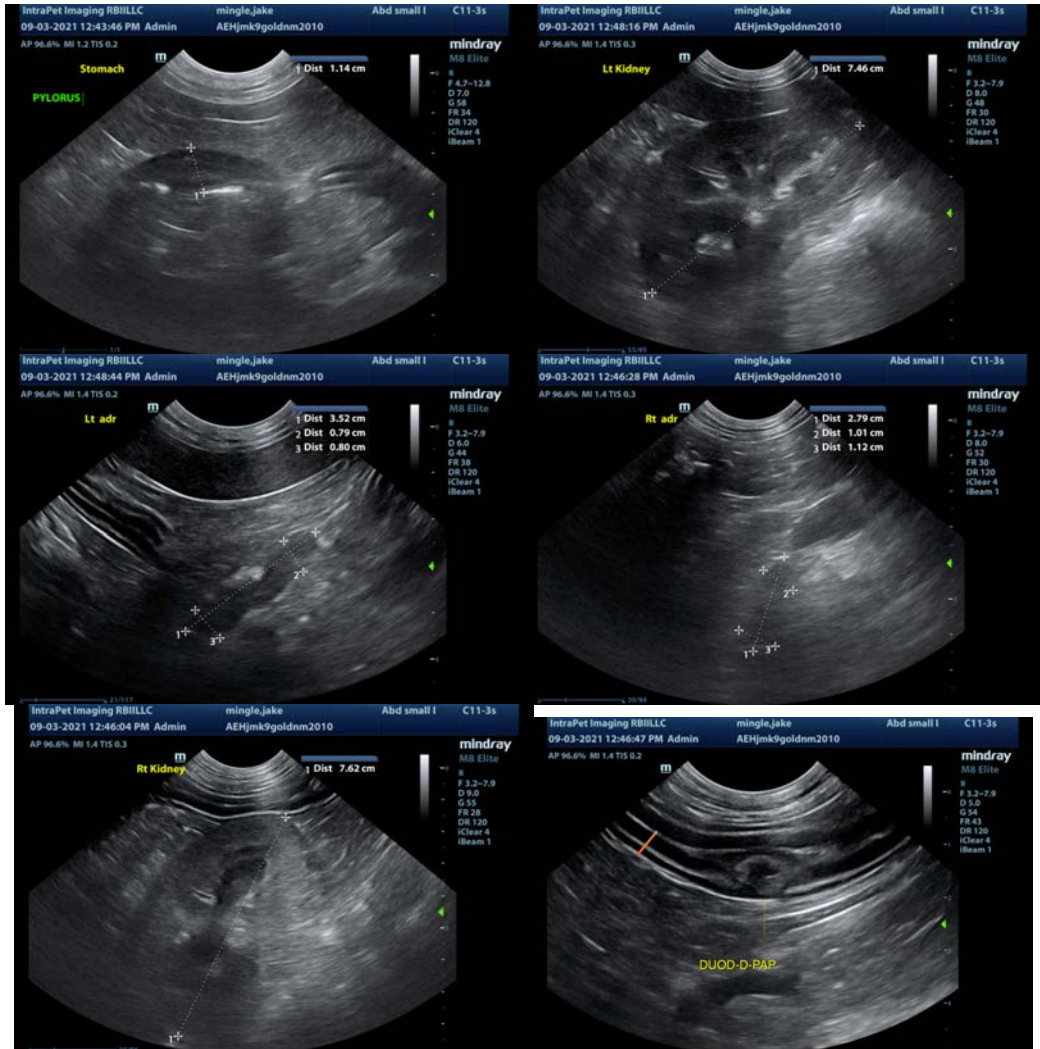
- Prominent, hypoechoic pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pyloric wall thickening and loss of layering is concerning given the history of acute vomiting. This can be due to inflammation, but there is concern for possible neoplastic infiltration. Fungal disease can affect this area as well. Correlate with radiographs. Sometimes barium will help to outline the stomach wall more clearly. Additionally, the liver is heterogeneous. This is a non-specific finding. No focal lesions were observed in the liver, and no lesions associated with the biliary tract. Considerations moving forward include:

- Consider close evaluation of history for possible toxic changes, examine medications, diet, dietary indiscretion, etc.
- Consider PCR on urine or serum for Leptospirosis (if not recently on antibiotics or serology if recently on antibiotics).
- Recommend pre- and post-prandial bile acids to evaluate liver function.
- Consider GI panel with PLI, B12 and folate to better evaluate the pancreas and small intestine.
- Recommend fine needle aspirate of the liver and pylorus (I'm concerned this may be difficult to reach) provided coagulation parameters are normal.
- If there is no response to supportive care for the liver and gastroenteritis/pancreatitis, then recommend referral to a veterinary surgeon for exploratory surgery to biopsy the liver and pylorus, and to surgically evaluate the pylorus for concerns of thickening and a possible mass effect.
- Recommend 3-view thoracic radiographs (I believe these were already done).





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 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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