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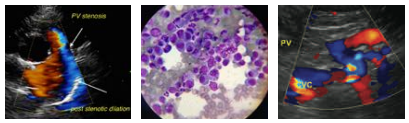

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DATE
2/15/22

PATIENT
Montana McGraw

SPECIES
Canine

BREED
Labrador Retriever

SEX
Spayed Female

AGE
5/9/09

WEIGHT
79.8 lbs

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

HOSPITAL NAME
Animal Emergency Hospital

REFERRING VET
Dr. Nacke-Horney

INVOICE
96072

PRESENTING CLINICAL SIGNS

History: Presenting Complaint: Elevated Liver Values; Vomiting. Date: 02-12-2022 Notes: Wednesday into Thursday: was noted to vomit - owner noted that she did not believe patient ate breakfast on Wednesday - Thursday stopped into rdvm due to concerns for regression Thursday overnight: another episode of vomiting This AM: owner found 9 piles of vomiting with a brown material and suspected blood - owner noted that she didn't hear patient vomiting -appeared more sedentary/lethargic. This AM rdvm recommended U/S. Owner has started feeding scrambled eggs and rice - ate this afternoon and so far has held it down Is a known eater of things while at the farm where the owners horses are kept Lab work from rdvm 2/3/22: ALT 1081, ALP 305, YBIL 0.5, SDMA 15 - started on Denamarin, amoxicillin, metronidazole, and fortiflora Current meds: - Proin 50 mg tabs - 1 tab q12 - owner has been giving intermittently - last given around 915a - Denamarin 425 mg tab - 1 tan q24 - typically given between 11-1p -was not given for past 2 days - Amoxicillin 500 mg tab - 1 tab q12 - last given 9a - Metronidazole 500 mg tab - 1 tab q12 - last given 9a -Fortoflora - last given this AM. Discussed ddx: liver disease vs gastroenteritis vs pancreatitis vs obstruction - discussed potential liver changes with the owner, noted that the next time ultrasound is schedule is Tuesday, can't guarantee they can come out on an emergent basis
Recommended hospitalization, recheck liver values, abdominal rads, fluids, supportive care as needed - owner agreed to plan
Current Medications: Omeprazole, Sucralfate, Gabapentin, Metronidazole, Amoxicillin, Buprenex, Denamarin, Unasyn, Cerenia, Pantoprazole.
Radiographs: Decreased serosal detail. Feces in the colon with mild gassy changes. Full bladder.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

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 left kidney has a normal shape and size (6.25 cm). Overall echogenicity is slightly hyperechoic with poor 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 (7.33 cm). Overall echogenicity is slightly hyperechoic with poor 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/borderline large in size measuring 0.73 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/borderline large in size measuring 1.1 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. This could be normal in this relatively large dog.

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 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. The gallbladder lumen is moderately distended. The wall of the gallbladder 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 <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layering 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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 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.

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.

ULTRASONOGRAPHIC FINDINGS
PRIMARY FINDINGS:

- Borderline plump adrenal glands. The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.

This could be normal in this relatively large dog.

- Decreased corticomedullary distinction in both kidneys. The bilateral renal findings are consistent with age-related change.

- Heterogenous 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 shadowing material in the gastric lumen. Shadowing material in the gastric lumen - correlate with feeding history and abdominal radiographs. If this patient was adequately fasted consider such differentials as delayed gastric emptying, ingested foreign material or a partial outflow tract obstruction (none observed.)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver or gallbladder. Based on the history provided the liver enzymes have dramatically improved since the original lab work approximately 10 days ago. This would suggest possible acute liver injury, lab error, etc. although I would hope the patient would be feeling better at this point unless some of the nausea is secondary to medications, etc. No obvious changes were observed regarding the GI tract. There is some shadowing material in the gastric lumen. If the patient was adequately fasted then correlate with abdominal radiographs as a foreign object cannot be 100% ruled out, but there is no suggestion of an obstructive pattern.

- Consider a liver function test to determine if liver function has normalized.

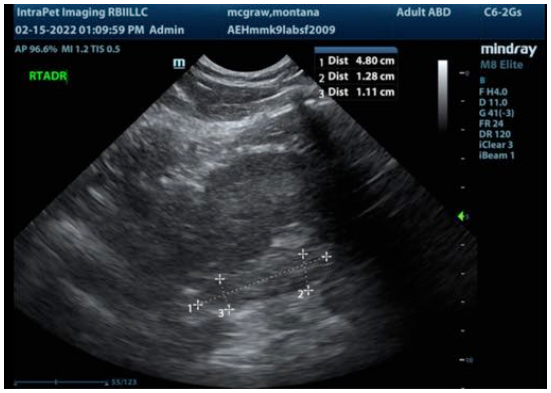
- Consider serology for Leptospirosis as this could be a public health issue even if this could be treated appropriately for the acute phase.

- You can consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and a small intestine for underlying disease causing vomiting.

- If liver function was abnormal consider a FNA of the liver.

- Recommend the three view thoracic radiographs to rule out any evidence of esophageal disease or concurrent intrathoracic pathology.

If vomiting persists and liver disease appears less like an issue you can consider obtaining GI biopsies if there is no response to treatment for acute gastroenteritis.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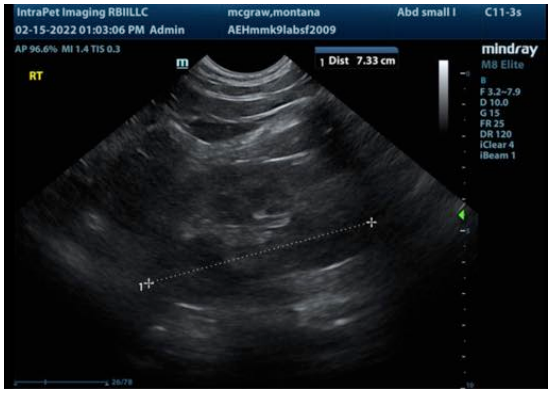
3 Dist 1.11 cm
mindray
M8 Elite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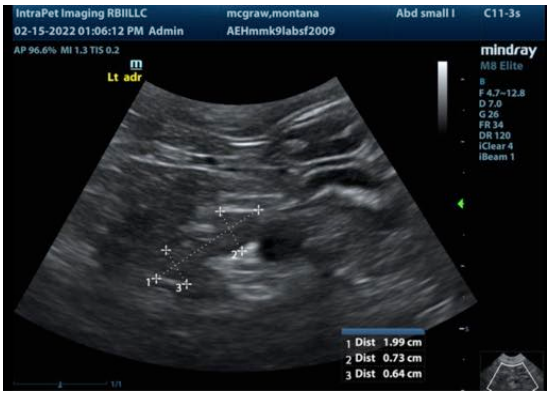
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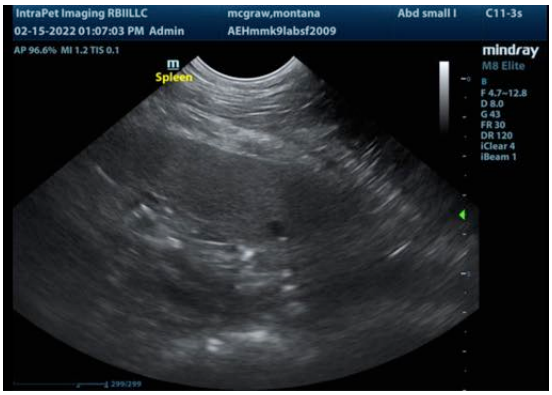
3 Dist 0.64 cm
mindray
M8 Elite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Spleen
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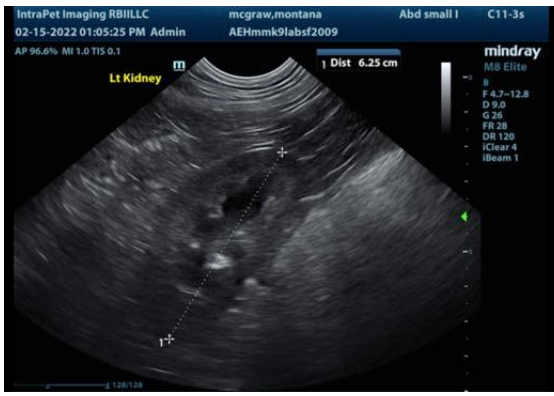
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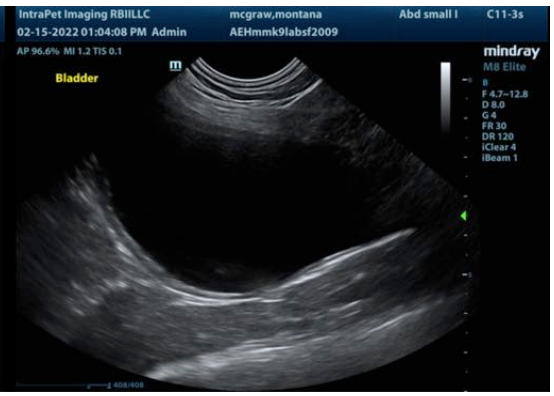
mindray
M8 Elite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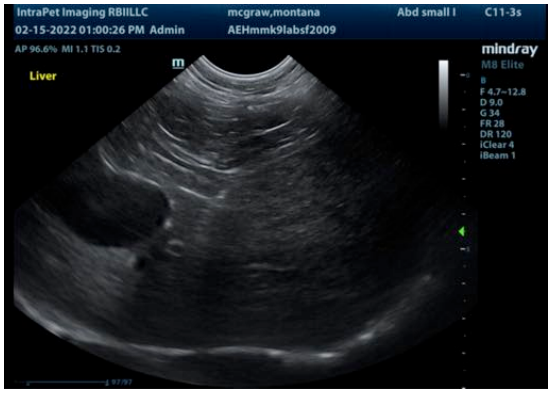
Bladder
mindray
M8 Elite



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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