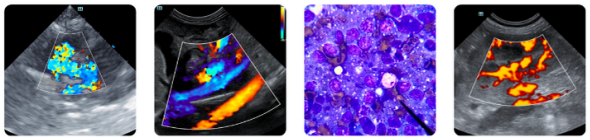


PATIENT

Mojo Koellhoffer

SPECIES

Canine

BREED

Malinois Mix

SEX

MN

AGE

14 years

WEIGHT

51 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Dr. Julia Baker

HOSPITAL NAME

Orange Blossom Veterinary Imaging

REFERRING VET

Dr. Ilonka Ambros

INVOICE

11227

DATE

2/2/2026

PRESENTING CLINICAL SIGNS

- Presented for evaluation due to change in overall appearance and behavior - haircoat has changed, P does not see or hear well, startles easily, is restless at night, no longer likes being brushed, and has ataxia/difficulty walking intermittently. He has vomited 3 times in the past 2 weeks and has become very finicky with eating. No prior medical history other than one bout of gastroenteritis many years ago. Some neurological abnormalities (ocular and CP deficits) noted during exam, exam otherwise overall unremarkable. Labwork shows severe elevation in all liver-related values (ALT 1209, ALP 858, AST 106, GGT 26, T. bili 0.3) and eosinophilia (1807).
- Concern for significant hepatic disease or neoplasia - ultrasound to evaluate liver further.

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 (0.6 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.

Prostate is normal in size, echotexture, and echogenicity for a neutered male.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of mineral or infarcts observed. Left kidney measures 5.6 cm. The right kidney measures 5.28 and has moderate pyelectasia present.

Adrenal Glands

The right adrenal gland is normal in size (0.47 cm at cranial pole and 0.57 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.78 cm at cranial pole and 0.56 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

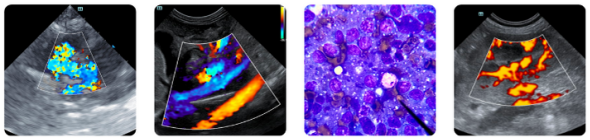
Spleen

Spleen is generally normal in size and shape with a smooth capsular contour. Parenchyma is diffusely nodular in appearance characterized by small discrete hypoechoic nodules. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is markedly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.



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Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material, or infiltrative disease; however, visualization is partially inhibited by gas. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of moderately thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen of the small intestine is largely empty with some areas demonstrating a small amount of reverberation artifact from intraluminal gas but in several views, just medial to the spleen, there is some acoustic shadow from within bowel in an area where I believe I see colon unrelated to the shadowing. So, I suspect it is small bowel. There's no obstructive pattern noted but non-fully obstructive, while potentially obstructive foreign material can't be ruled out.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

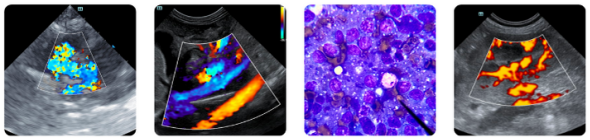
The pancreas that is observed appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

In the same area as the subtle luminal bowel changes described above, just medial to the left spleen, is a very scant/trace pocket of free fluid and lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

PRIMARY FINDINGS

- Moderate inflammatory bowel disease (IBD) pattern – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No loss of layering or distinct characteristics of malignancy are present. Therefore, differentials cannot be further ranked without tissue sampling.
- As described above, non-fully obstructive or potentially early obstructive foreign material, can't be ruled out. Having said that, gas ingesta or even potentially colon causing the change is a possibility.
- The markedly heterogenous liver could represent a benign process such as marked nodular hyperplasia, steroid or vacuolar hepatopathy, extramedullary hematopoiesis, or even chronic inflammatory disease. However, especially given the degree of change, infiltrative neoplasia including round cell neoplasia, metastatic neoplastic, other can't be ruled out without tissue sampling.



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- Splenic micronodular hyperplasia pattern – This nodular change is often associated with benign aging nodular hyperplasia. Infiltrative neoplasia, however, including both early hemangiosarcoma as well as round cell neoplasia cannot be ruled out.
- Moderate gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- Moderately reactive lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.
- Scant/trace free fluid is of unknown origin. Differentials (unless already ruled out) could include increased hydrostatic pressure (cardiac disease and/or vascular or lymph blockage), decreased oncotic pressure (low albumin), vasculitis, paraneoplastic fluid, rupture/leakage of/from an organ (GI, GB, UB, other), blood (hemoabdomen), other.

SECONDARY FINDINGS

- Age related kidney changes with moderate pyelectasia in the right kidney.
- 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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Fine needle aspirates of the liver and spleen are recommended if patient's coagulation status is appropriate.

In the meantime, given reported clinical history combined with the reported laboratory changes, a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

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.

A routine fecal/giardia exam is recommended if not recently evaluated. Bile acids could be considered if patient's total bilirubin is not increased.

If a diagnosis is not obtained, ultimately, biopsies of the GI tract being sure to include ileum, if possible +/- liver, spleen, and/or even enlarged lymph node, may ultimately, be indicated for definitive diagnosis and therefore to further guide medical management.

If vomiting persists and a diagnosis is not made, and the clinical history is at all consistent with possible foreign material ingestion, follow up or recheck imaging of the GI tract and/or alternative imaging of the GI tract, including possible contrast radiography versus other, may be helpful for further assessment/rule in versus rule out foreign material.

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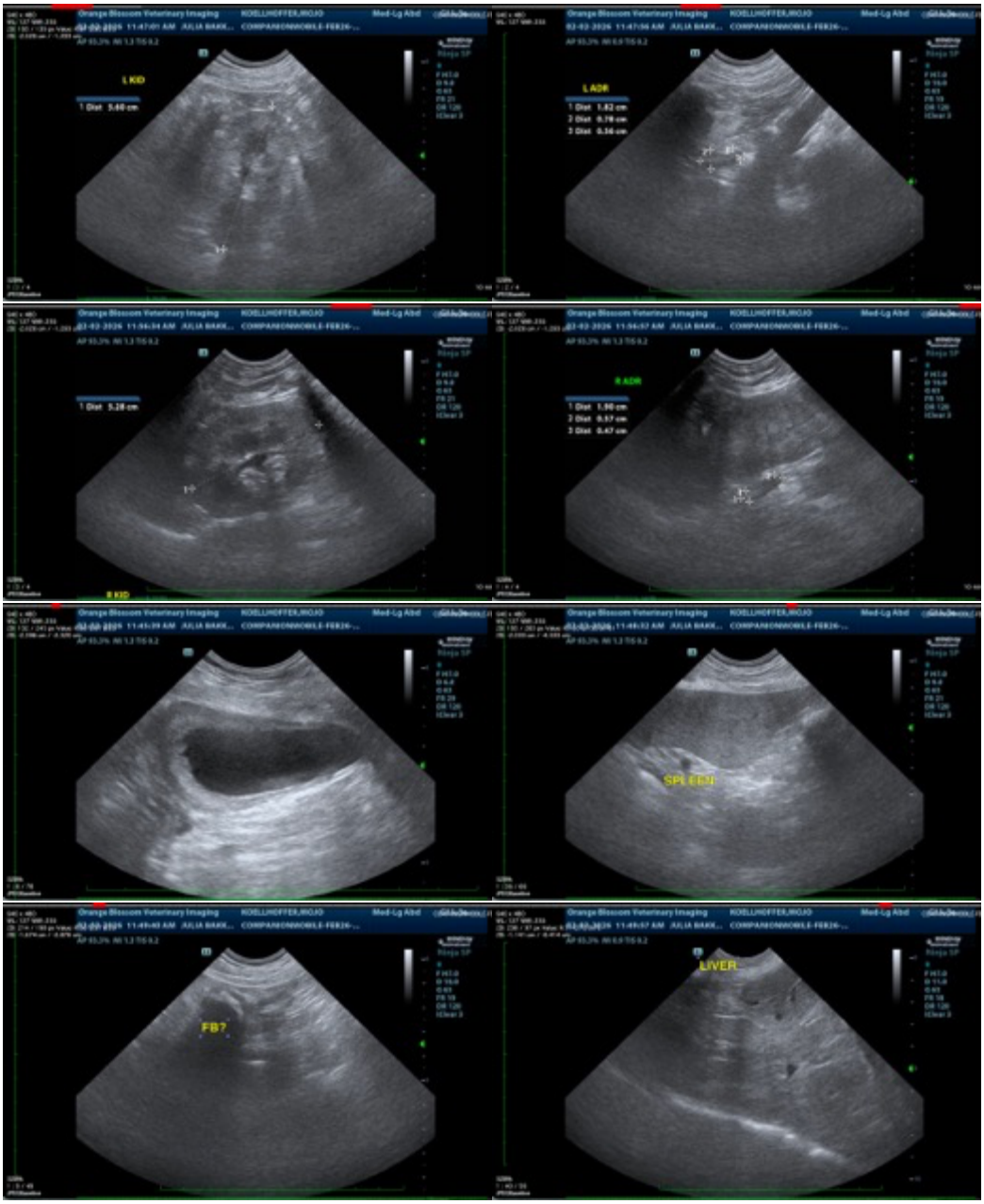
These changes are of unknown, if any relation to patient's reported neurologic signs and further advanced neurologic evaluation may also be warranted. In the meantime, other than supportive/symptomatic medical management of clinical signs, further treatment recommendations are largely dependent on results of the above.



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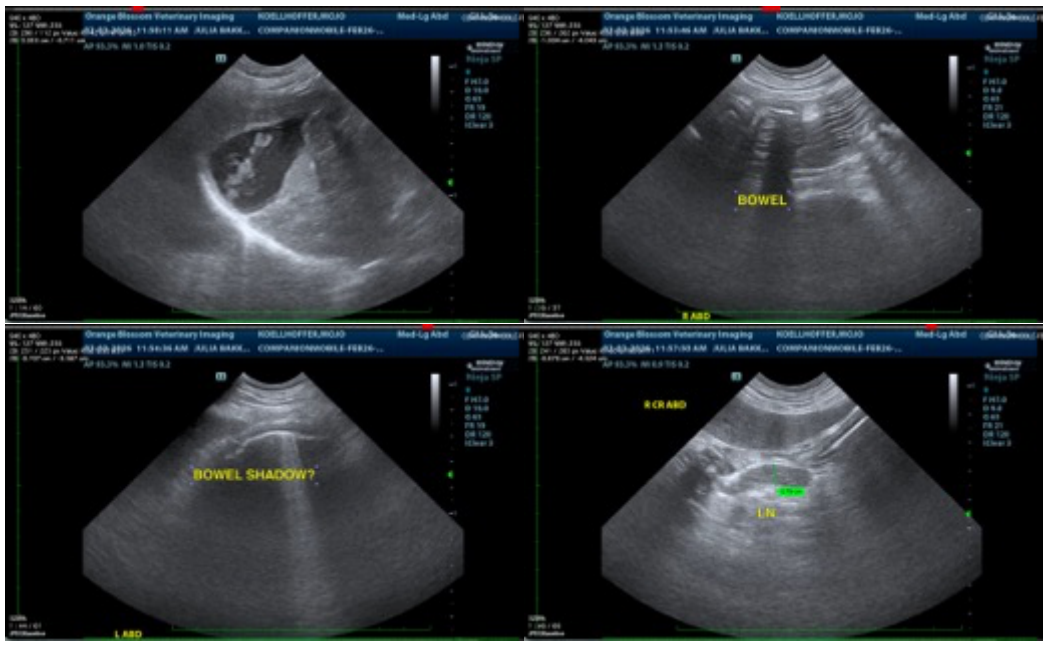

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
info@sonopath.com