



PATIENT

Nadia McIntyre

SPECIES

Canine

BREED

Shepherd X

SEX

Spayed Female

AGE

13.5 Years

WEIGHT

40 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Meghan Myers

HOSPITAL NAME

Hershire AH

REFERRING VET

Dr. Erika Gallisdorfer

INVOICE

46244

DATE

3/28/23

PRESENTING CLINICAL SIGNS

Has history of intermittent decrease in appetite and vomiting bile over several months, Pet sees an animal communicator and has relayed that there is pain or discomfort in her stomach and around the liver region, no pain on palpation on exam but recommended an ultrasound for full evaluation. Pet recently positive for anaplasmosis - currently on doxycycline. Pet also has history of arthritis and recurrent pyoderma - current medications famotidine, gabapentin, carprofen, adequan, chinese herbal supplement, enrofloxacin.

Abnormal PE/Chem/CBC/UA Results: Bloodwork last month revealed ALP 199 (10-160), T4 0.9 (1-4), fT4 3.9 (7-3.7), remainder WNL

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 (5.33 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 (5.75 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 0.49 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 measuring 0.48 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 and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal.

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. There are too numerous to count, variably sized, ill-defined hypoechoic nodules throughout the parenchyma, varying in size from 0.25-1.0 cm.



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The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.

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Gastrointestinal

The stomach contains mild fluid/ingesta. 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 layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

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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 measures 0.30 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 area of 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.

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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.

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PRIMARY FINDINGS

- Heterogeneous liver with numerous ill-defined hypoechoic nodules – 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. The nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out.
- Moderately distended gallbladder with dependent hyperechoic debris and some adhered to the gallbladder wall – A large amount of debris is evident in the gall bladder with no evidence of a mucocele or associated inflammation at this time. This could represent an early mucocele or cholestasis, with minimal evidence of associated inflammation at this time. Continued monitoring of labwork and ultrasound are warranted for progression of this lesion. Ursodiol therapy could be considered.

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SECONDARY FINDINGS

- Hyperechic splenic nodules – These lesions have the appearance of benign myelolipomas.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions were visualized associated with the GI tract to explain the vomiting and inappetence reported. The liver is heterogeneous and has too numerous to count ill-defined hypoechoic nodules throughout the parenchyma. These are likely consistent with benign nodules, but in a sick pet,



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underlying neoplasia cannot be ruled out. Consider fine needle aspirate provided coagulation parameters are normal. Additionally, the gallbladder has a significant amount of intraluminal debris, but no evidence of significant inflammation. I suspect this is incidental at this time.

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Unfortunately, there are many causes for reduced appetite and vomiting that can't be diagnosed by ultrasound alone. Recommend current bloodwork. If lab work remains normal, then consider the possibility of primary gastrointestinal disease.

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- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.

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- Recommend chronic probiotic therapy.

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- If symptoms are persistent and the above recommendations are not diagnostic, then consider repeat imaging, as GI and hepatic biopsies may be necessary.

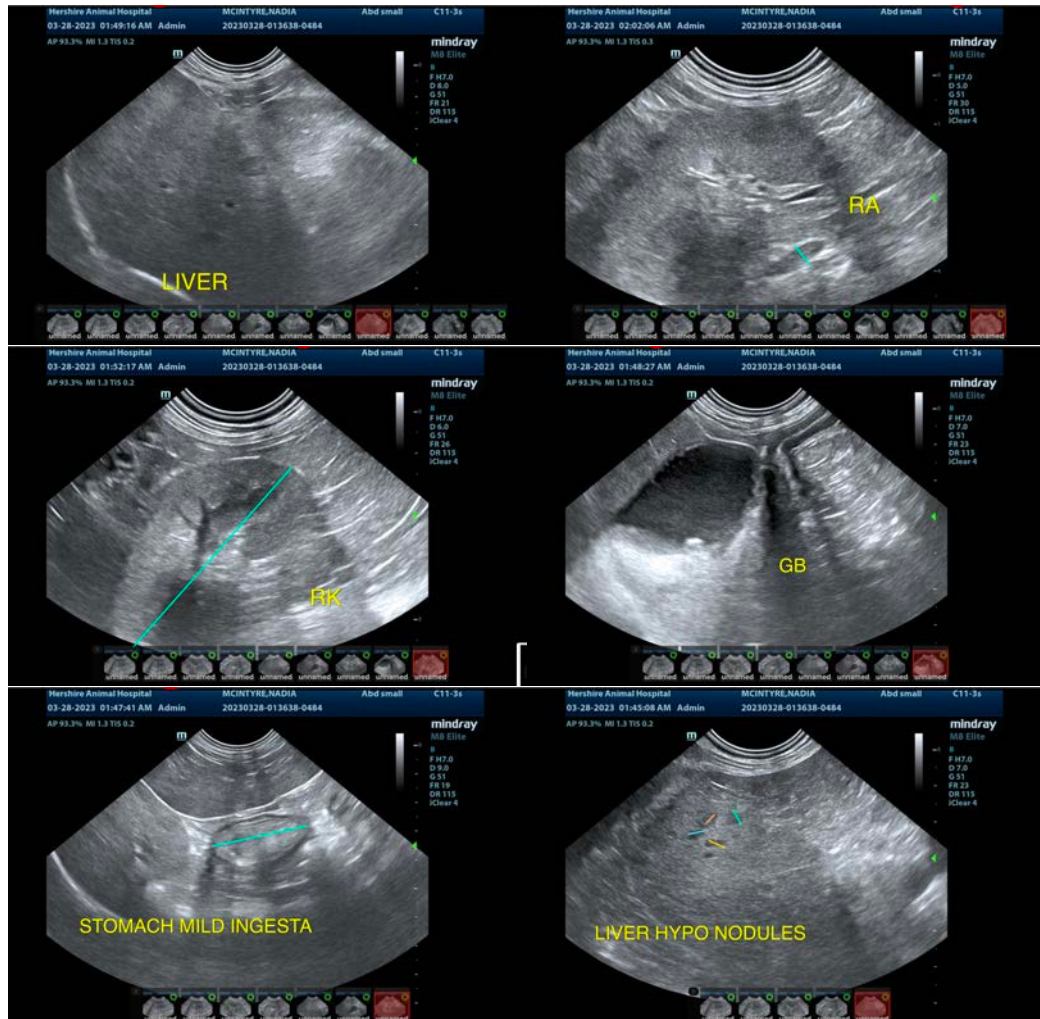
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Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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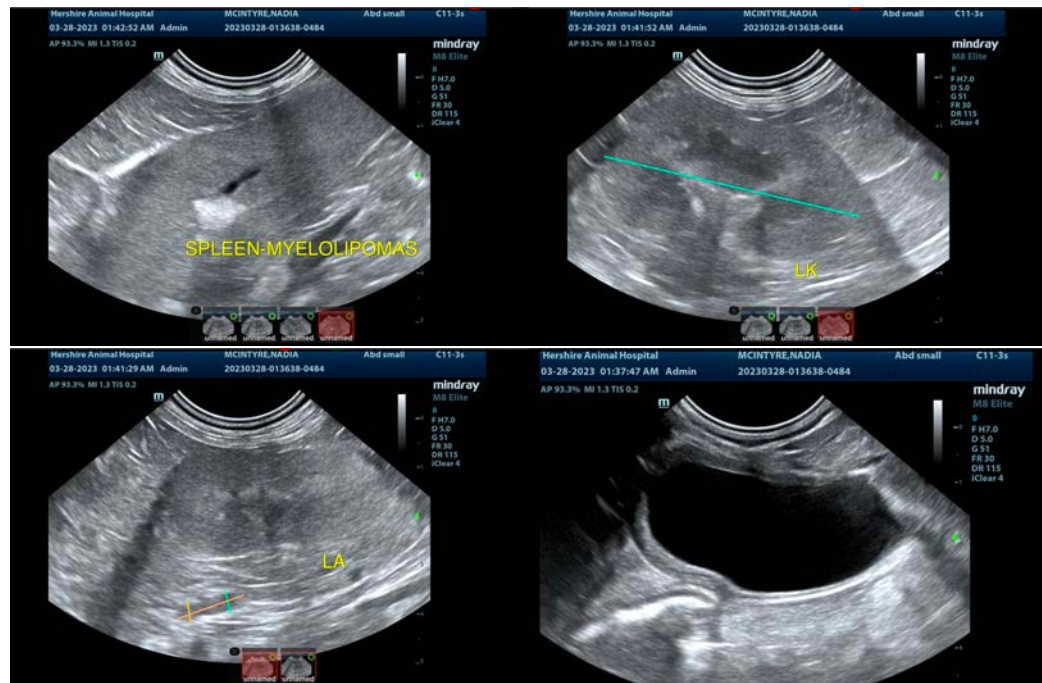
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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