



PATIENT

Lance Mananquil

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Neutered Male

AGE

13 Years

WEIGHT

16.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Dr. Gudrun Gunther

HOSPITAL NAME

New Frontier AMC

REFERRING VET

Dr. Gudrun Gunther

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DATE

4/14/22

PRESENTING CLINICAL SIGNS

Treated at a different clinic on 4/11/22 for elevated liver enzymes + Leukocytosis. He presented with vomiting, hyporexia; no fever Treated with Vit K; Entyce, Cerenia Amoxicillin, Metronidazole Patient feeling much better but present for an abdominal ultrasound

Abnormal PE/Chem/CBC/UA Results: 4/11/22 = ALT 465, ALP >2000, GGT 47, Tbili 9.2

Leukocytosis due to neutrophilia and monocytosis, lymphopenia present 4/14/22 = Leukocytosis resolved Hyperglycemia (230), ALT 464; ALP 1851, GGT 51 Tbili normal (0.6)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is well filled. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass. A small amount of anechoic fluid is observed ventral to the bladder.

Prostate

The prostate is homogenous and measures 1.8 cm, which is within normal limits for a neutered male.

The **left kidney** is within normal limits in size (5.36 cm) for the patient's weight and the capsule is smooth. The cortex is mildly hyperechoic (cortex is isoechoic to the spleen). A mild loss of the normal definition of the cortico-medullary junction is present. Mild mineralization and fat deposition within the pelvis are present. There is no evidence of nephroliths or pyelectasia. The surrounding mesentery is mildly hyperechoic.

The **right kidney** is within normal limits in size (5.41 cm) for the patient's weight and the capsule is smooth. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The left adrenal gland measures 0.63 cm at the cranial pole, 0.62 cm at the caudal pole, and 1.72 cm in length. No abnormalities are noted with the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The right adrenal gland measures 0.68 cm in diameter. No abnormalities are noted with the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. A small amount of anechoic fluid is observed surrounding the spleen.

Liver

There are no obvious signs of hepatomegaly. Liver borders are smooth and sharp and it is homogeneous. Occasional perivascular cuffing is observed. A heterogeneous mass effect of the right liver lobe was initially noted, however, it was in fact the gall bladder. The mesentery surrounding the liver and stomach is severely hyperechoic.



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The gall bladder is markedly distended, measuring at least 5.6 cm in length in one view. It contains inspissated and hyperechoic bile that remains immobile. In other views, it has a typical “kiwi” appearance; these findings are consistent with a mucocele. The wall of the gallbladder is thickened. A small amount of free fluid is present surrounding the GB, which is suggestive of a rupture. The surrounding region is markedly hyperechoic, which is consistent with severe inflammation.

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Gastrointestinal

A large amount of gas, fluid and ingesta are present in the gastrointestinal tract, including the transverse colon.

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The gastric wall and pylorus are within normal limits in thickness. Although the overall thickness is within normal limits and there is no loss of definition of the normal architecture of the wall layers, the submucosa is more prominent. No obvious abnormalities are observed with its peristalsis.

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Neutered Male

The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved.

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The colonic wall is not thickened and mural detail is considered normal. There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction.

Pancreas

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The **left limb** is mildly hypoechoic, however, it is difficult to determine if this is real or due to the contrast created by the hyperechoic mesentery. A few pinpoint and punctate, hyperechoic foci are noted in the parenchyma, as well as hypoechoic nodules. These are most likely due to age-related changes. For example, fibrosis due to age and possible previous episodes of pancreatitis and nodular hyperplasia, respectively. The surrounding mesenteric fat is hyperechoic. A mild active pancreatitis cannot be excluded. Overt signs of neoplasia are not noted.

Similar findings are noted with the **right limb**.

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Other

Lymph nodes No abnormalities are observed

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Abdominal effusion is visualized ventral to the urinary bladder, surrounding the spleen and gall bladder.

ULTRASONOGRAPHIC FINDINGS

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- A previously ruptured gallbladder mucocele is suspected. The rupture appears to be contained for the moment as the fluid seems “walled off” and very little fluid is present surrounding the spleen and urinary bladder. However, previous contamination of the abdomen and bile peritonitis cannot be excluded.

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- The hyperechoic liver is attributed to cholestasis, however, secondary suppurative cholangitis/cholangiohepatitis and cholecystitis are likely playing a role.

- Very mild degenerative changes of both kidneys are observed, which are suggestive of age related degeneration.

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- A mild active pancreatitis cannot be excluded, however, many of the changes observed appear to be age-related. Overt signs of neoplasia are not noted.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Emergency surgery to perform a cholecystectomy is strongly recommended. However, this may not be possible during the long weekend. Keeping Lance as quiet as possible will be of utmost importance.

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Analgesia is recommended during the weekend.

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Neutered Male

Aerobic and anaerobic cultures of the gallbladder contents should be performed, and intravenous broad-spectrum antibiotics are recommended during hospitalization, followed by oral administration pending the results.

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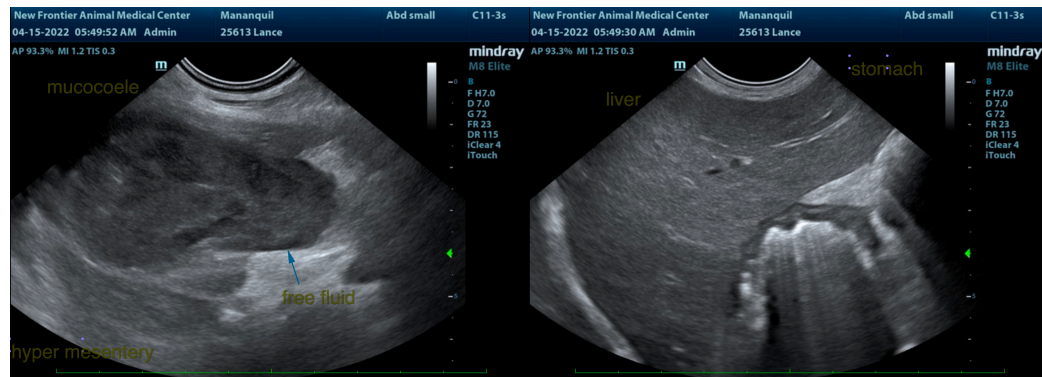
Ursodeoxycholic acid should **NOT** be administered.

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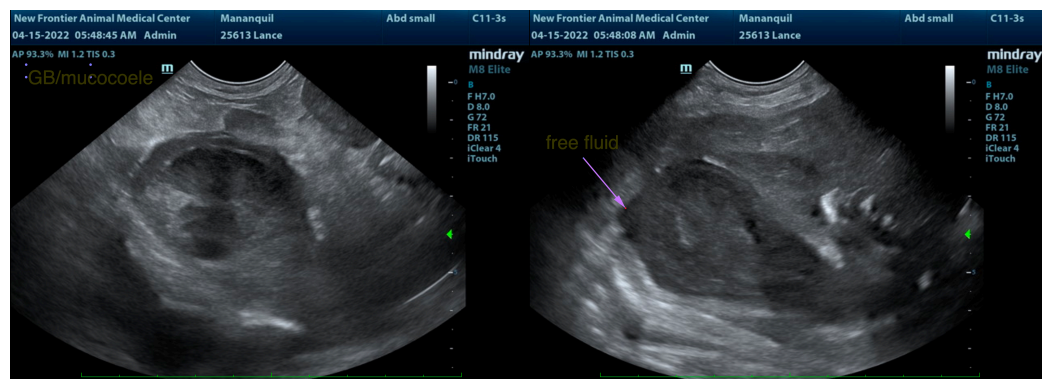
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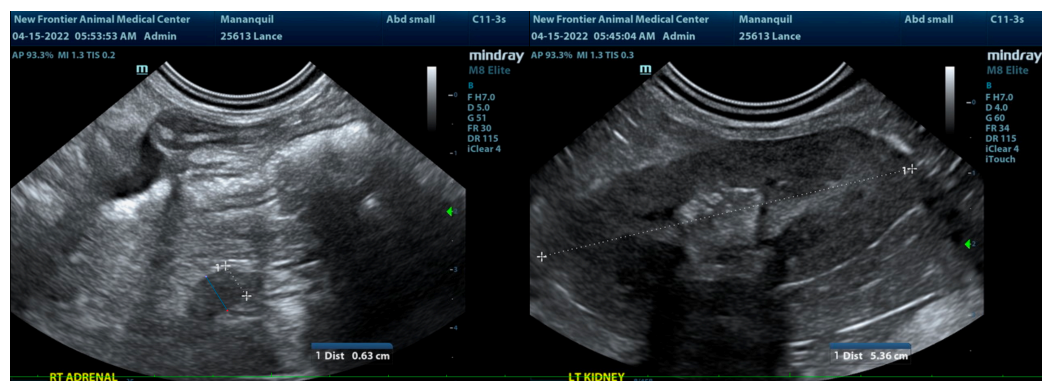
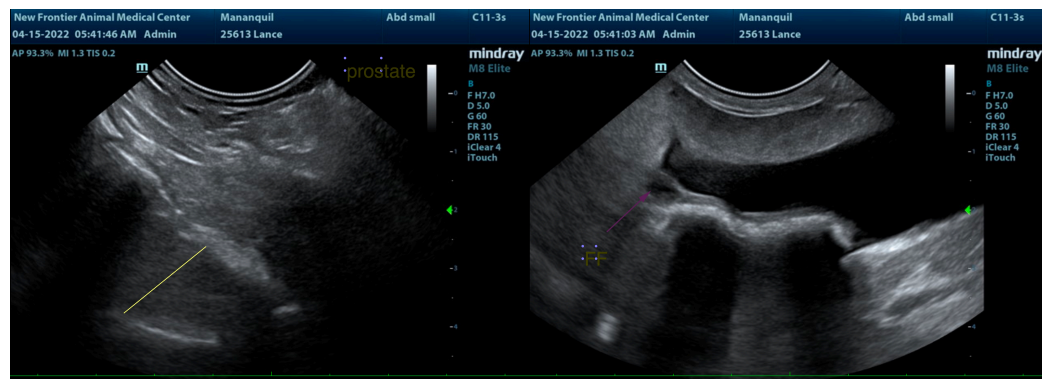
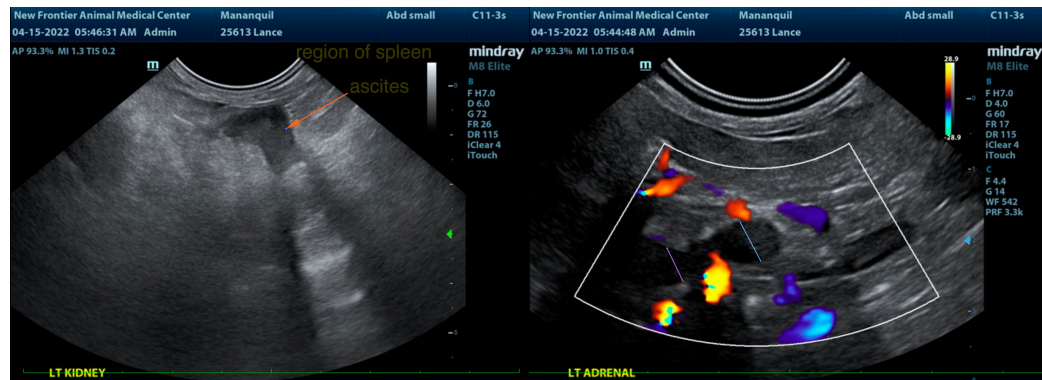
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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