



PATIENT

Cozmo Kelnhofer

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

15 Years

WEIGHT

11.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

North Haledon VC

REFERRING VET

Dr. Mansfield

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DATE

6/10/22

PRESENTING CLINICAL SIGNS

History: Concern for possible abdominal mass; patient is anemic and depressed. No current meds.

Abnormal PE/Chem/CBC/UA Results: WBC= 41,000, RBC 3.3, HCT 18%, NRBCs 2, PLTS 25. 0.99% Retics.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is poorly distended with anechoic contents. No obvious sediment, cystoliths, polyps or a mass are observed. The trigone and proximal urethra are not visualized.

Kidneys

The **left** kidney measures 3.40 cm (3.80-4.40 cm). The kidney is rounder than usual and appears "swollen". The capsule is mildly irregular. The cortex is hyperechoic and mildly thicker than usual. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. There is no evidence of nephroliths or pyelectasia. Blood flow is within normal limits. The surrounding mesentery is hyperechoic

The **right** kidney measures 3.82 cm (3.80-4.40 cm). The capsule is smooth. The cortex is diffusely hyperechoic. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. The cranial pole is hyperechoic compared to the remainder of the kidney, with focal hyperechoic medullary band. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.58 cm, which is increased for a cat. It is also hypoechoic compared to normal. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.36 cm. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

Very severe splenomegaly is present (14.7 mm at the hilus, but up to 23.6 mm at its head (normal = 10 mm)). It has swollen and irregular, rounded, and scalloped borders. The spleen is diffusely hypoechoic compared to normal and is heterogeneous, with a diffuse, moth eaten and "lacy" appearance. A small amount of anechoic fluid is seen surrounding the spleen, and the adjacent mesentery is hyperechoic. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

There are no obvious signs of hepatomegaly. The liver's borders are smooth, but rounded. The liver is diffusely *hypoechoic* and also has a mildly to moderately coarse/granular echotexture. No obvious abnormalities are noted with the hepatic vessels. Free fluid is noted between the liver lobes.



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The **gallbladder** (GB) wall is within normal limits in thickness and echogenicity. There is no evidence of echogenic material within the GB or edema surrounding it. The cystic duct becomes tortuous just prior to it entering the common bile duct (8.6 mm). The common bile duct is also severely dilated (7.10 mm). No abnormalities are observed with the duodenal papilla. An obvious obstruction is not visualized.

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Gastrointestinal

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The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis, however, the submucosa is prominent. The mesentery surrounding the stomach and duodenum is hyperechoic.

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The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.

A mild ileus of the small intestines is observed.

The colonic wall is not thickened and mural detail is considered normal.

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Pancreas

The **pancreas** is enlarged. Severe areas of hypoechogenicity are present, with irregular contours and a surrounding mesentery that is hyperechoic. A mildly coarse echotexture is also noted. These findings are suggestive of active pancreatitis and age-related changes, respectively.

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Other

Lymph nodes

No abnormalities are observed

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Abdominal effusion

A small to moderate amount of anechoic fluid is visualized throughout the abdomen. Fluid is present ventral to the urinary bladder, surrounding the left kidney, spleen, and gallbladder, and between the liver lobes.

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ULTRASONOGRAPHIC FINDINGS

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- **Spleen:** High index of suspicion of infiltrative disease. Lymphoma, mast cell tumour and histiocytic sarcoma, albeit less common in cats, are differential diagnoses.

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- **Liver:** Infiltrative disease is also suspected due to the diffuse hypoechogenicity. Differential diagnoses are similar to those above.

- **Pancreas:** Active pancreatitis is suspected. It is difficult to determine if it is primary inflammation vs. due to underlying neoplasia.

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- **Adrenal glands:** The discordance in size between the left and right adrenal glands is suggestive of neoplasia, as is the marked hypoechogenicity (almost anechoic) of the left gland. Lymphoma or other infiltrative disease of the left gland must be considered.

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- **Kidneys:** Age-related changes are suspected. Glomerulonephritis or interstitial nephritis due to systemic inflammation may be contributing to the changes. Pyelonephritis is considered unlikely, but cannot be excluded.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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A fine needle aspirate of the spleen would help achieve a definitive diagnosis, however, a platelet count of $25 \times 10^9/L$ increases the risk of hemorrhage, even if a 25 gauge needle is used.

DSH

Other options include evaluation of the blood smear by a board-certified pathologist to determine if atypical cells are present (lymphoma), erythrophagia (often seen with histiocytic sarcoma), an elevated number of mast cells in circulation (mastocytoma), etc. A buffy coat could also be performed.

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Empirical therapy for lymphoma or mastocytoma with steroids and chlorambucil may be considered once Cozmo is stabilized (intravenous fluids, etc.).

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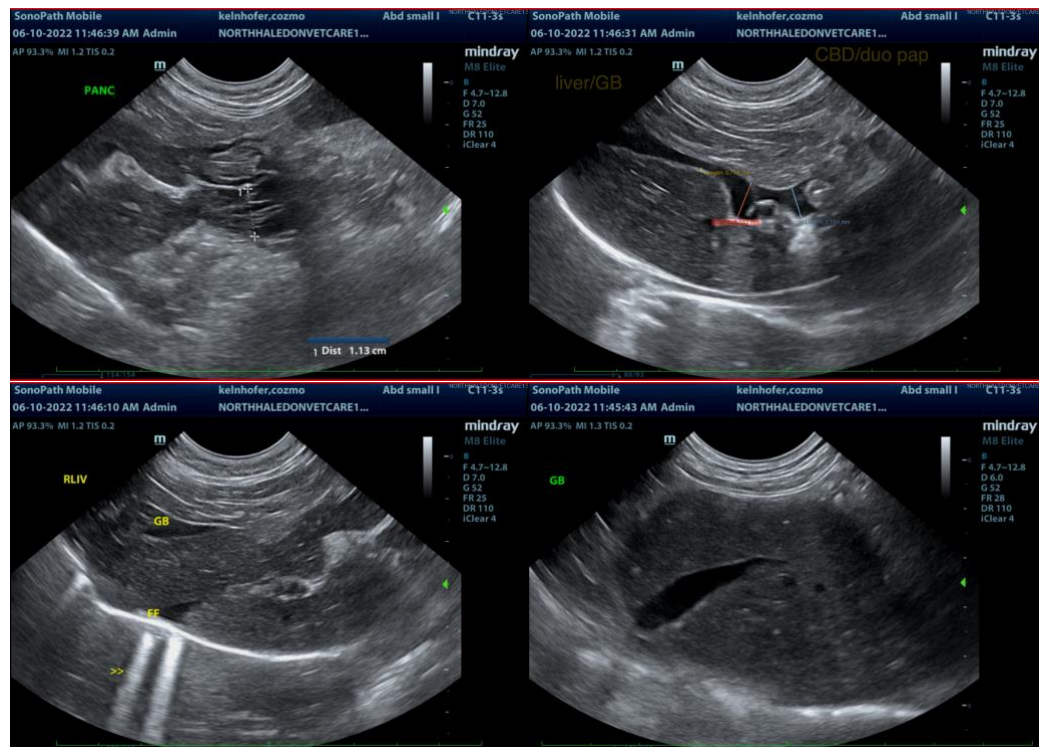
Other empirical treatment options may be discussed with a board-certified oncologist or internist.

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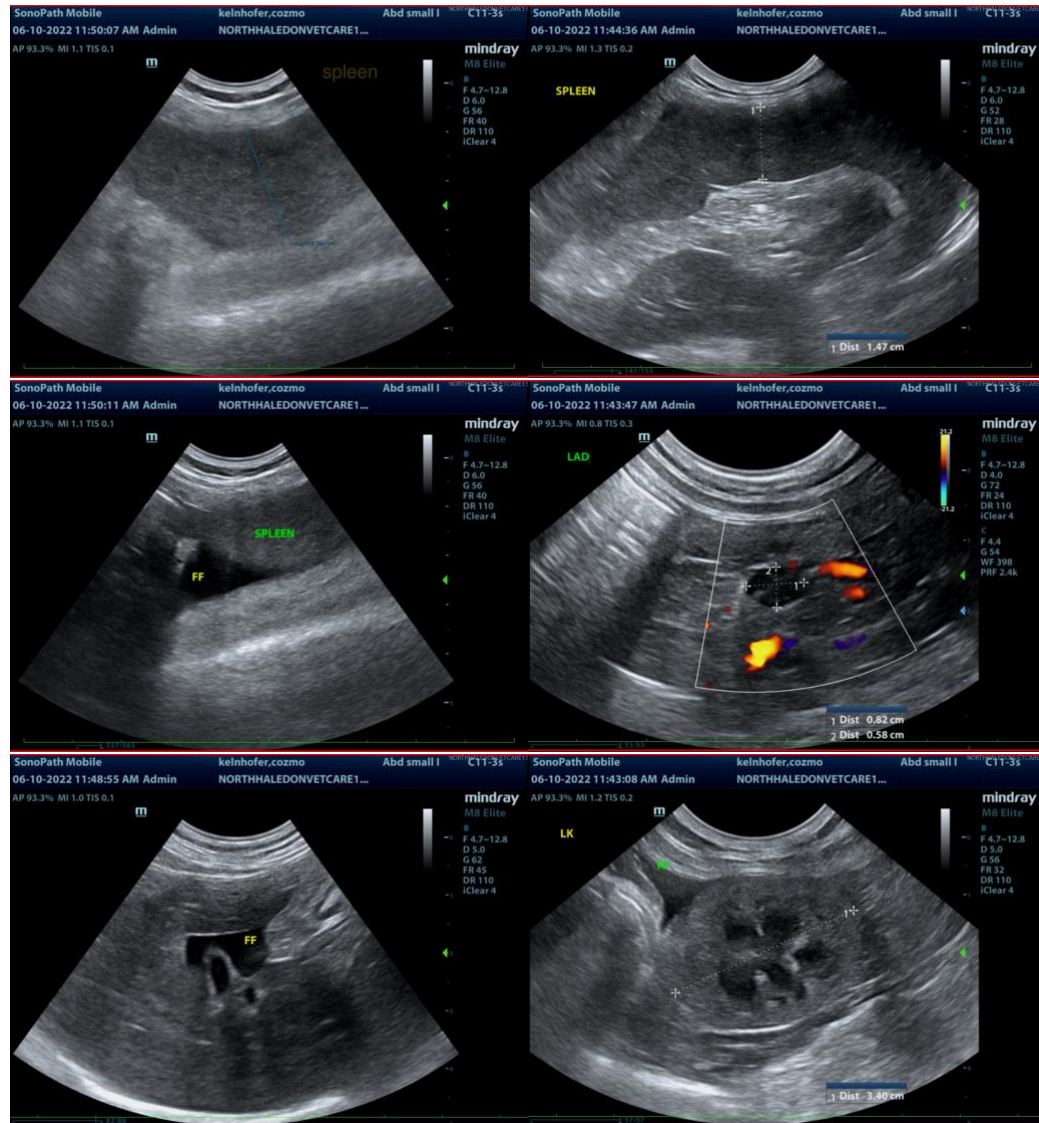
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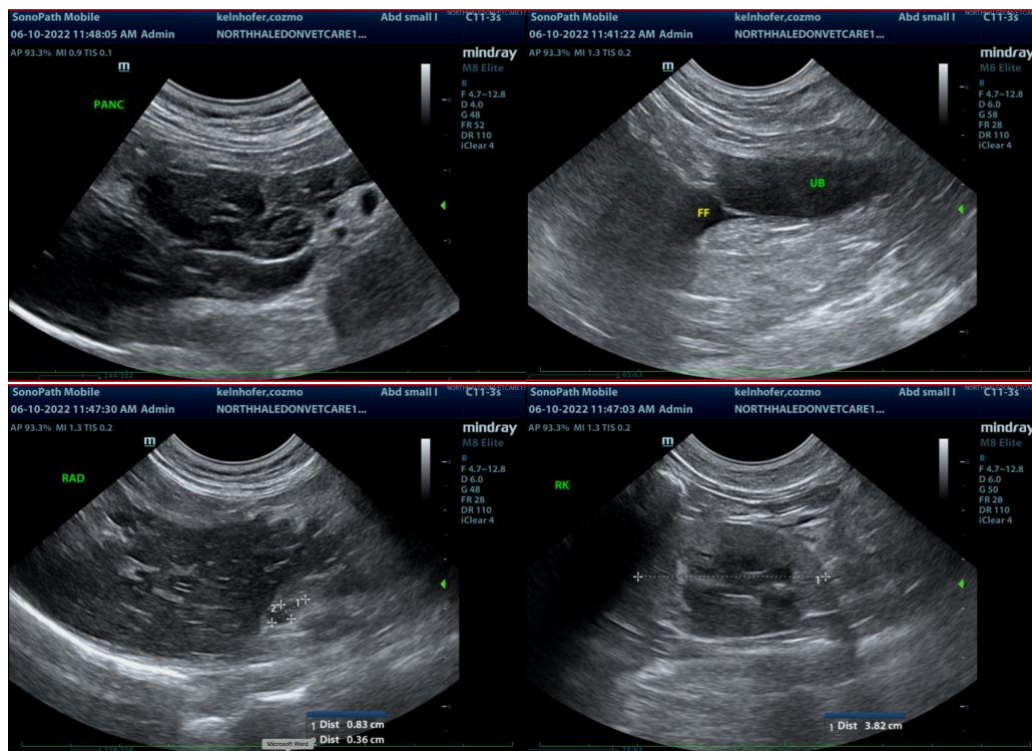
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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