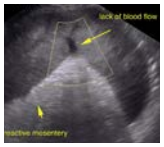
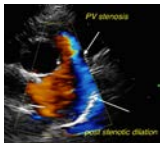
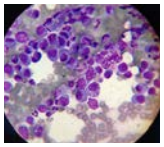
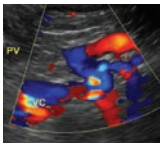
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Jango Dominguez

SPECIES
Canine

BREED
Lab X

SEX
Neutered Male

AGE
9 Years

WEIGHT
60 Pounds

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY
Dr. Reyes

HOSPITAL NAME
Mobile Vet Ultrasound

REFERRING VET
Dr. Santiago

INVOICE
39795

DATE
7/22/22

PRESENTING CLINICAL SIGNS

Pet was a walk in into the clinic this am for lethargy, occasional vomiting. Pet was seen at ER two weeks ago and radiographs were done but not significant findings per owner. On PE submandibular LN are prominent, pet is extremely lethargic. No fever
Abnormal PE/Chem/CBC/UA Results: WBC : 48.72 Neut: 31.95 Lymphocytes: 11.32 Mono: 4.76 Alp: 1,873

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 6.15 cm. The capsule is smooth. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. Well-defined hyperechoic, cortical lesions are observed at the cranial pole and along the anti-mesenteric border toward the caudal pole. The latter are suggestive of infarcts or previous ischemic insults and fibrosis. This is in addition to diffuse hyperechogenicity of the cortex. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Multiple anechoic structures, approximately 3 – 5 mm, are noted within the cortex. They are most consistent with benign cysts . Blood flow is within normal limits. The surrounding mesentery is moderately to markedly hyperechoic.

The **right** kidney measures 7.20 cm. Findings are similar to the left kidney. The capsule is smooth. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. Well-defined hyperechoic, cortical lesions are observed at the cranial pole and along the anti-mesenteric border toward the caudal pole. This is in addition to diffuse hyperechogenicity of the cortex, i.e., infarcts or previous ischemic insults and fibrosis are suspected. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow not evaluated (too deep). The surrounding mesentery is moderately hyperechoic.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.67 cm at the cranial pole, 0.63 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature are unremarkable, however, the surrounding mesentery is moderately to markedly hyperechoic.

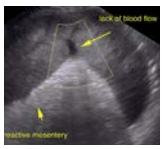
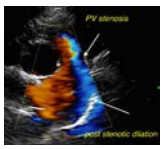
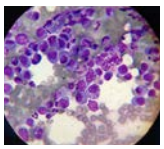
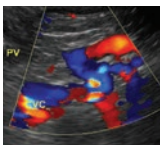
The **right** adrenal gland is not visualized.

Spleen

Subjectively, the spleen is decreased in size. The capsule is smooth. A diffuse "lacy" or mottled appearance of the parenchyma is observed. Acoustic enhancement surrounding the spleen is noted. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified

Liver

Hepatomegaly is suspected, however, this is better characterized at the time of the ultrasound or radiographically. The liver's borders are smooth and vary between sharp to mildly rounded. It is

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Jango Dominguez

SPECIES

Canine

BREED

Lab X

SEX

Neutered Male

AGE

9 Years

WEIGHT

60 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Dr. Reyes

HOSPITAL NAME

Mobile Vet Ultrasound

REFERRING VET

Dr. Santiago

INVOICE

39795

DATE

7/22/22

diffusely hyperechoic, but remains hypoechoic to the falciform fat, and has a mildly coarse or granular echotexture. Perivascular cuffing of multiple blood vessels is observed, which is most likely due to suggested myelolipomas, however, a component of inflammation cannot be excluded. Focal lesions are not observed. Acoustic enhancement of the mesentery is noted between multiple liver lobes and medial to the liver.

The **gallbladder** (GB) is mildly to moderately distended with a moderate amount of free floating and gravity-dependent echogenic material (sludge). The GB wall is thickened (0.27 cm) and hyperechoic. The cystic and common bile ducts cannot be followed due to gas in the surrounding GI tract, however, there are no signs of an obstruction.

Gastrointestinal

A small amount of gas and fluid are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

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.

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

Pancreas

No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Other

Lymph nodes (LN)

Left cranial quadrant, ventro-medially to left kidney: Enlarged (1.34 cm in diameter x 1.65 cm in length), round, and hypoechoic, with maintenance of smooth contours. The surrounding mesentery is moderately to markedly hyperechoic.

Gastric LN: Enlarged (1.2 cm in diameter x 0.84 cm in length), elliptical, and hypoechoic, with maintenance of smooth contours. Acoustic enhancement of the surrounding mesentery is observed.

Mesenteric LN: Enlarged (1.84 cm in diameter x 2.41 cm in length), round, and severely hypoechoic, with maintenance of smooth contours. The surrounding mesentery is moderately to markedly hyperechoic.

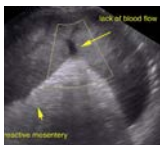
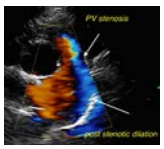
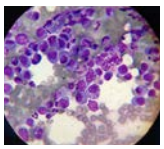
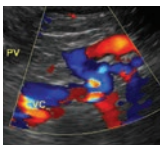
An enlarged, multilobulated *LN* id visualized cranio-ventrally to the spleen (2.14 cm in diameter x 3.94 cm in length). Severe acoustic enhancement of the surrounding mesentery is observed.

A portion of what appears to be enlarged *sublumbar LNs* are noted in one view during evaluation of the urinary bladder. The mesentery in the caudal abdomen is severely hyperechoic.

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Spleen**: The echotexture is highly suggestive of a round cell tumour (e.g. lymphoma). Reactive hypersplenism and splenitis are considered much less likely given Jango's other findings on abdominal ultrasound and CBC results, unless he lives in an area where infectious diseases (fungal, vector borne) are prevalent or if he has a travel history to endemic regions. The subjective decrease in size of the spleen is suggestive of hypovolemia.

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Jango Dominguez

SPECIES

Canine

BREED

Lab X

SEX

Neutered Male

AGE

9 Years

WEIGHT

60 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Dr. Reyes

HOSPITAL NAME

Mobile Vet Ultrasound

REFERRING VET

Dr. Santiago

INVOICE

39795

DATE

7/22/22

- **Lymph nodes**: Infiltrative disease (lymphoma) is suspected, however, another type of round cell tumour is also possible (mast cell, etc.). Immune-mediated lymphadenitis or reactive hyperplasia are considered less likely.

- **Liver and gallbladder**: Vacuolar and reactive hepatopathies are suspected, however, diffuse infiltrative disease (lymphoma) cannot be excluded. Cholestasis may be contributing to the hyperechogenicity. Cholecystitis, with or without a suppurative component may be contributing to the abnormalities observed.

- **Kidneys**: Mild changes are noted, which may be associated with age-related degeneration or inflammation. Other abnormalities are suggestive of infarcts or previous ischemic insults and fibrosis, as well as benign cysts. Pyelonephritis cannot be excluded. Neoplasia is considered much less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Review of the blood smear by a pathologist may confirm atypical lymphocytes or leukemia.

Fine needle aspirates of the enlarged peripheral lymph nodes are strongly recommended, even if only mildly enlarged. Avoid aspirating the submandibular lymph nodes, if possible.

An ultrasound-guided fine needle aspirate of the spleen, liver and mesenteric lymph nodes may be performed if cytology of the peripheral lymph nodes is not diagnostic.

Performing a coagulation profile prior to the final aspirates is suggested

Administration of vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses) is suggested even if the results of the PT/PTT are within normal limits, or at the very least, one dose 45-60 minutes prior to the procedure.

Urinalysis and culture and sensitivity

Pending the above results or, if the former are not pursued, the following are suggested:

Analgesia, e.g. gabapentin, +/- methadone

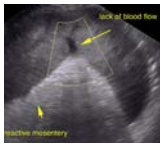
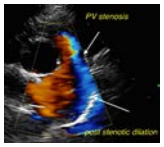
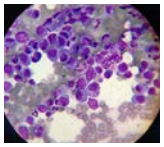
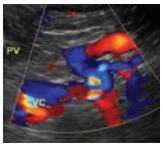
Supportive care (IV fluids, maropitant or other anti-nausea (metoclopramide or ondansetron), appetite stimulant, etc.)

Cholangitis/cholangiohepatitis and cholecystitis and secondary ascending bacterial infections are possible differential diagnoses. Although indiscriminate use of antibiotics is not normally recommended, one could begin treatment with a broad-spectrum antibiotic and assess clinical response. *If a response is observed, continue antibiotics for a total of 4 to 6 weeks.

Referral to a board certified oncologist if cytology results are consistent with multicentric lymphoma.

Again, depending on cytology results, if aggressive chemotherapy is not desired, but some form of therapy is desired, oral protocols may be discussed with a board certified oncologist.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Jango Dominguez

SPECIES

Canine

BREED

Lab X

SEX

Neutered Male

AGE

9 Years

WEIGHT

60 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Dr. Reyes

HOSPITAL NAME

Mobile Vet Ultrasound

REFERRING VET

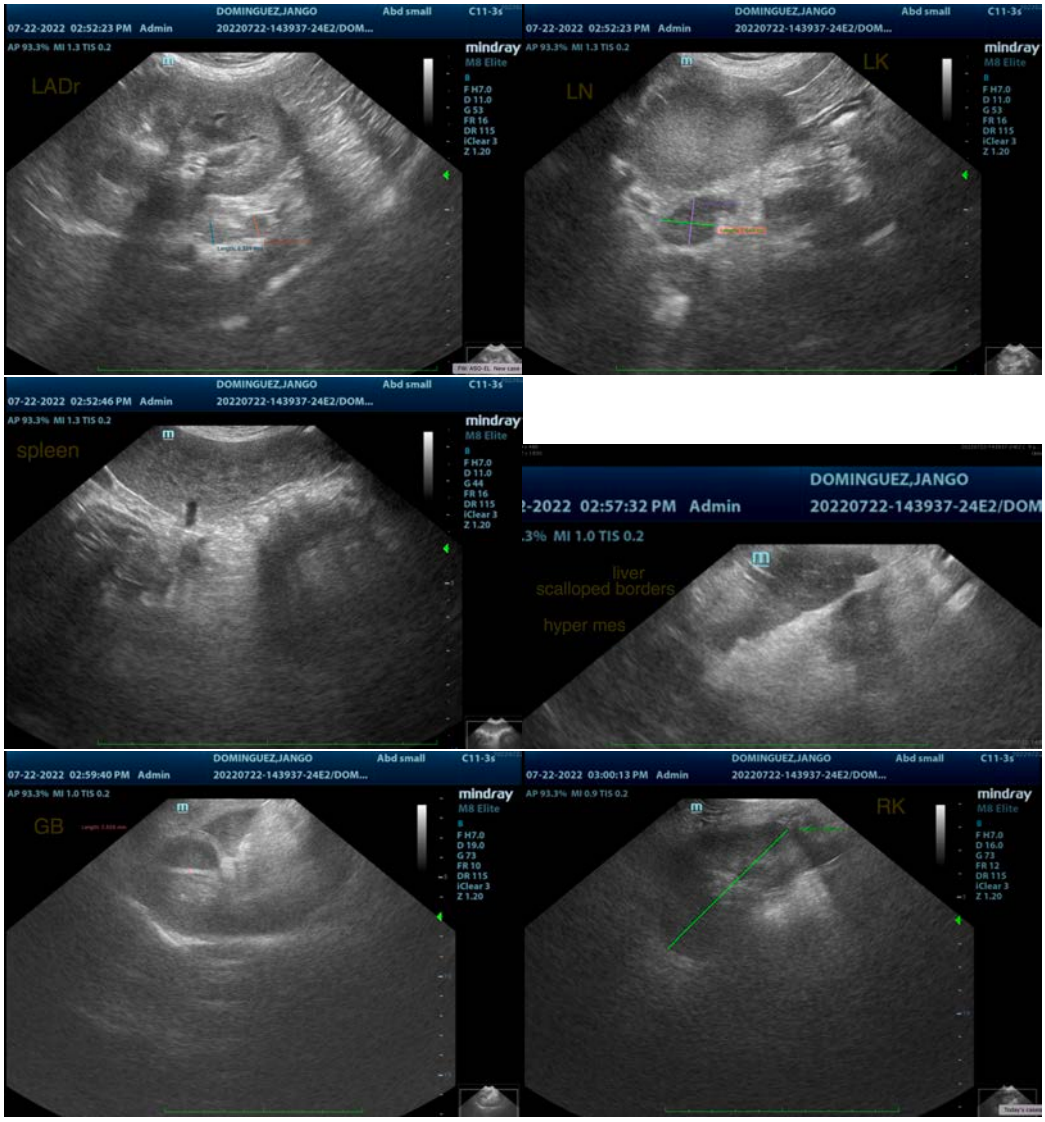
Dr. Santiago

INVOICE

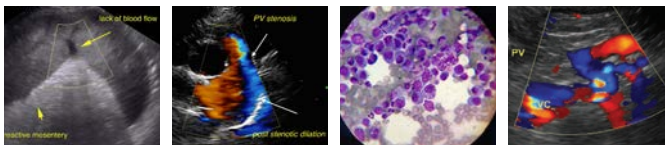
39795

DATE

7/22/22



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Jango Dominguez

SPECIES

Canine

BREED

Lab X

SEX

Neutered Male

AGE

9 Years

WEIGHT

60 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Dr. Reyes

HOSPITAL NAME

Mobile Vet Ultrasound

REFERRING VET

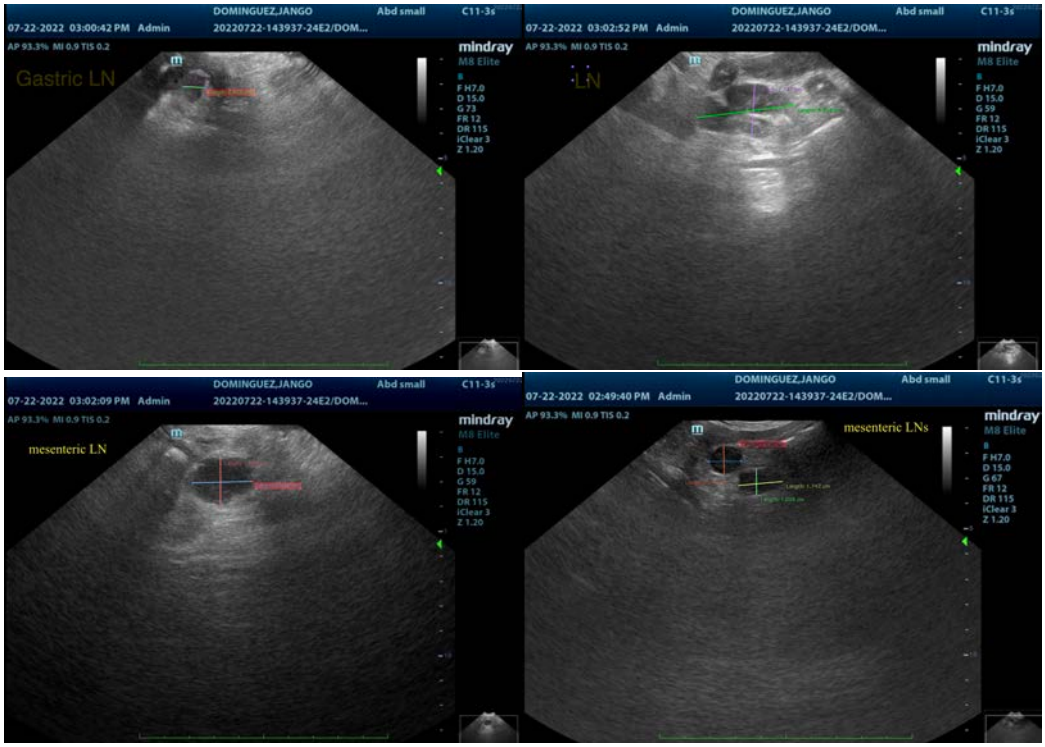
Dr. Santiago

INVOICE

39795

DATE

7/22/22



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

Lisa.Carioto@sonopath.com