**PATIENT**

Mako Stauber

PRESENTING CLINICAL SIGNS

History: Newly diagnosed lymphoma Staging abdominal US Sedated with Butorphanol

SPECIES

Canine

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.

BREED

Goldendoodle

The **prostate** is homogenous and measures 0.64 cm; within normal limits for a neutered male.

SEX

Neutered male

Kidneys

The **left kidney** measures 6.16 cm. The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. Very small mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

AGE

7 years

The **right kidney** measures 5.87 cm. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation No abnormalities observed.

WEIGHT

64.5 lbs

Adrenal Glands

The **left adrenal gland** measures 0.71 cm at the cranial pole, 0.49 cm at the caudal pole and 2.53 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right adrenal gland** measures 1.18 cm at the cranial pole, 0.91 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 and mesentery are unremarkable.

INTERPRETED BYLisa Carioto, DVM,
DVSc, Diplomate
ACVIM**IMAGING PERFORMED BY**

Dr. Liedberg

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.

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Liver

There are no obvious signs of hepatomegaly, however, hepatic size is better characterized at the time of the ultrasound or radiographically. Its borders are smooth and sharp. The liver is diffusely hyperechoic, i.e., it is isoechoic to the spleen. It is primarily homogeneous other than a small hypoechoic nodule, which is suggestive of nodular hyperplasia. Target-like lesions are not evident. No abnormalities are observed with the hepatic vessels.

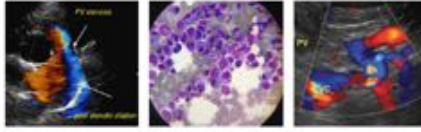
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DATE

7/15/22

The gallbladder (GB) is moderately distended with a small amount of free floating, gravity-dependent and inspissated echogenic material. The GB wall is within normal limits in thickness and echogenicity.

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The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

SPECIES

Canine

Gastrointestinal

A large amount of gas is present within the lumen of the stomach, which hinders its evaluation. Panting artifact is also present. However, the gastric wall is within normal limits in thickness and the wall layers are well defined. Comments cannot be made regarding peristalsis.

BREED

Goldendoodle

Duodenum and Jejunum: wall thickness is within normal limits, and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.

SEX

Neutered male

A large amount of gas is present in the transverse colon.

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 in the gastrointestinal tract.

AGE

7 years

Pancreas**WEIGHT**

64.5 lbs

Only a small portion of the pancreas is visualized due to the large amount of gas in the surrounding gastrointestinal system. No overt abnormalities are observed with its architecture, contours, echogenicity or echotexture. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis and neoplasia are not present.

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Other**Lymph nodes (LN)**

Sublumbar LN: Elliptical with smooth contours, however, it is mildly enlarged and hypoechoic, 1.07 cm in diameter x 3.12 cm in length.

Hepatic LN: Mildly enlarged with smooth contours. It is hypoechoic with a hyperechoic region in the centre/periphery, suggestive of mineralization, fat, or nodular regeneration.

Mesenteric LNs: Multiple mildly enlarged mesenteric LNs are visualized. They have smooth to mildly irregular, scalloped borders. One of them measures 0.88 cm in diameter x 4.08 cm in length. They are slightly hypoechoic.

Abdominal effusion is not visualized.

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ULTRASONOGRAPHIC FINDINGS**INVOICE**

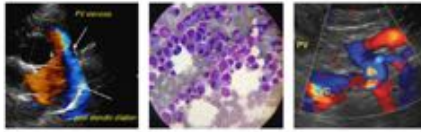
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- **Lymph nodes:** Mild to moderate lymphadenomegaly of multiple intra-abdominal lymph nodes, which is consistent with generalized, multicentric lymphoma. They show signs of mild reactivity based on their appearance.

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- **Liver:** A vacuolar hepatopathy secondary to stress and underlying disease (lymphoma) is suspected (hyperechogenicity).



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- **Gallbladder:** Gallbladder sludge, which is most likely clinically insignificant. However, gastroesophageal reflux disease (GERD) can occur in some patients. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be required.
- **Adrenal glands:** The right gland is mildly enlarged, which may be a variation of normal for Mako, or mild hyperplasia secondary to stress and illness may be present. There are no signs of infiltrative disease.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

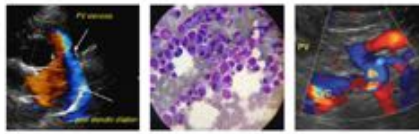
Multicentric lymphoma, which is involving multiple intra-abdominal lymph nodes. The spleen and liver do not appear to be affected.

Wishing Mako well during his treatment.



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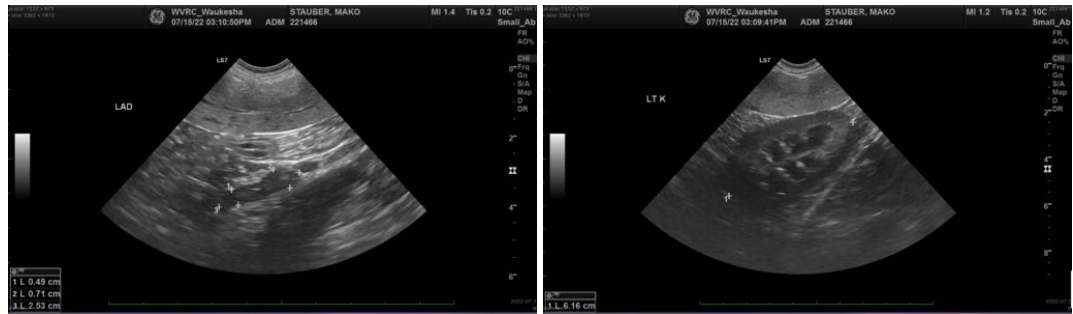
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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