

**PATIENT**

Max Gross

SPECIES

Canine

BREED

Labrador

SEX

Neutered Male

AGE

3 years

WEIGHT

104 Pounds

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

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Pinecrest AH

INVOICE

30091

DATE

5/2/22

PRESENTING CLINICAL SIGNS

Lethargic/ADR off/on for a few weeks, intermittent vomiting, becoming finicky eater, getting onto counters/trash at home, diarrhea off/on.

Abnormal PE/Chem/CBC/UA Results: Elevated Eosinophils (suspected inflammation vs parasitic). Additionally, Protein levels are low. Discussed ddx for low proteins- (maldigestion / absorption, PLE, parasitic, IBD) Fecal 04-29-2022 - negative UA 04-29-2022 - WNL

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.

Prostate

The prostate is homogenous and measures 1.36 cm, which is within normal limits for a neutered male.

Kidneys

The **left** kidney measures 7.12 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The cortex is hypoechoic to the spleen. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 7.68 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The cortex is hypoechoic to the spleen. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.61 cm at the cranial pole, 0.54 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.

The **right** adrenal gland measures 0.61 cm at the cranial pole, 0.61 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.

Spleen

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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 and its borders are smooth and sharp. The liver's echotexture is homogeneous and it is within normal limits in echogenicity. No abnormalities are observed with the hepatic vessels visualized.

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The gallbladder wall is within normal limits in thickness and echogenicity. A small to moderate amount of echogenic material is present within the GB. The portions of the cystic is not dilated or tortuous, i.e. there are no signs of an obstruction.

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Gastrointestinal**AGE**

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A large amount of gas and ingesta are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. The gas and ingesta are preventing an in-depth evaluation of the stomach. Although an obvious foreign body is not observed, an "odd" gas pattern is present, which is suggestive of a foreign body. A foreign body could also cause delayed gastric emptying, particularly if Max was fasted.

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The duodenum is very mildly thickened at 0.66 cm a small amount of gas is present within the lumen. Stippling of the mucosa of the duodenum is also noted.

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The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved. However, mild fogging and stippling of the mucosa of some loops of bowel is observed. A few abnormally dilated loops of small intestine with a scant amount of anechoic ascites are observed in the right abdomen. In addition, a number of loops of jejunum have a moderate amount of gas, ingesta and fluid within their lumen with ineffective peristalsis, i.e., a "to and fro" motion is present.

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The colonic wall is not thickened and mural detail is considered normal. A large amount of gas is present within the colon.

Pancreas**HOSPITAL NAME**

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

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Other**Lymph nodes****INVOICE**

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Left iliac measures 0.87 cm, which is mildly enlarged. It is "plump", but maintains its normal echogenicity and echotexture.

The right iliac is within normal limits for a dog of Max's stature. No abnormalities are observed with its echogenicity or echotexture.

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Abdominal effusion

A scant amount of anechoic ascites is observed surrounding a few dilated loops of bowel in the right abdomen.

ULTRASONOGRAPHIC FINDINGS

- A possible foreign body is present within Max's stomach based on the "odd gas pattern" observed, as well as the large amount of gas and ingesta present within the lumen of the stomach. A foreign body could also cause delayed gastric emptying, particularly if Max was fasted.
- Max's small intestines are showing non-specific signs of inflammation, which may occur as a result of vomiting and diarrhea, but which may also develop due to the presence of underlying inflammation caused by inflammatory bowel disease. A few abnormally dilated loops of small intestine with a scant amount of anechoic ascites are observed in the right abdomen, which may be due to gastroenterocolitis. A mild ileus is also present. An overt obstruction is not appreciated.
- The presence of sludge in the gallbladder is most likely clinically insignificant, however, some dogs may show clinical signs of gastroesophageal reflux disease (GERD), therefore, obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor or ursodeoxycholic acid may be required depending on the patient's history.
- Urine specific gravity 1.023 in the face of hypoalbuminemia, vomiting and diarrhea. Max's hypoalbuminemia is not severe enough to cause ascites.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

As mentioned above, an obvious foreign body is not observed, however, they can be difficult to identify, particularly in the stomach. If there is a strong suspicion of a foreign body, follow up radiographs may be performed to ensure the gas pattern noted yesterday has is moved, or a sonographic re-evaluation of the ingesta filled loops of bowel may be performed.

Pica may be a due to a behavioural issue, however, it is often associated with gastrointestinal pain, which is often secondary to inflammatory bowel disease. Further evaluation of Max's history for signs of gastroesophageal reflux is recommended.

Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor or ursodeoxycholic acid may be required depending on the patient's history.

A baseline (random) cortisol is strongly recommended, to exclude hypoadrenocorticism.

A TLI, serum cobalamin, and folate, +/- spec fPL are recommended to assess for underlying maldigestion and malabsorption disease.

Although the dipstick was negative for protein, false negative results may occur, therefore, a re-



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evaluation of the urine specific gravity is suggested, ideally the first morning. A urine protein: creatinine ratio is also suggested if the USG remains less than 1.025.

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Deworming with a broad spectrum dewormer, such as fenbendazole, is recommended, even if Max receives monthly heartworm prevention.

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A veterinary prescription brand hypoallergenic diet, whether hydrolyzed or novel protein, should be tried. Multiple diets may be required, including canned food, as some individuals cannot digest dry. The kibble may be soaked if canned food is cost prohibitive.

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Small, frequent meals are recommended, including a small snack prior to going to bed.

If there is no response to deworming and diet trials, endoscopy and biopsies of the upper and lower GI tract are suggested.

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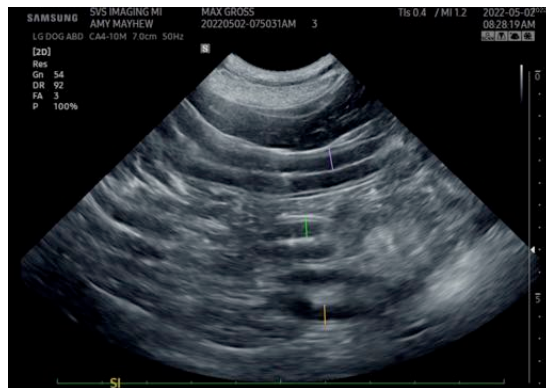
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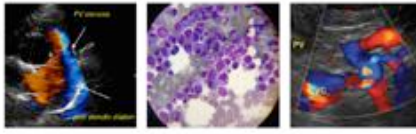
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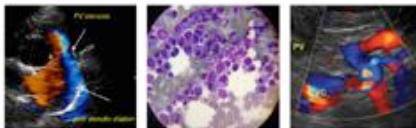
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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