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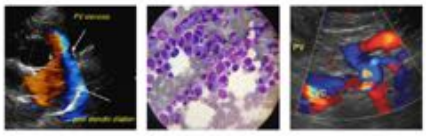

SonoPath
Clinical Sonography & Telecytology
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PATIENT

Gizmo Semma

SPECIES

Canine

BREED

Pug Mix

SEX

Neutered Male

AGE

12 years

WEIGHT

14.7 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Wixom Family Pet Practice

INVOICE

31860

DATE

7/20/22

PRESENTING CLINICAL SIGNS

History: Current Medications: Vetsulin 4 units SC BID; Orbax 21mg PO SID; just finished a tapering dose of Prednislone 5mg, Royal Canin GI low fat diet Patient History: Presumed Masticatory Muscle myositis, first episode in 9/2021, responsive to steroids. Re-started the steroids on 7.5.22 due to jaw pain, Prednisolone 5mg PO BID for 7d then 5mg PO SID for 7d, then 5mg PO EOD for 14d, PU/PD started about a week after starting. Some blood in stool as well. Blood work and UA reveal Diabetes Mellitus with trace ketones.
Abnormal PE/Chem/CBC/UA Results: Mild tartar/gingivitis; able to fully open jaw under sedation; mild bilateral muscle atrophy around jaw/temporal region. Abdomen slightly tense on palpation, seems slightly distended. UA-glucosuria, trace ketones, USG 1.038 CBC-mild leukocytosis with neutrophilia Chem-BG 491, mild elevations in ALT, ALP, GGT and lipase

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Sedated with butorphanol (Torbugesic) and dexmedetomidine

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.

The **prostate** is homogenous and measures 0.70 cm; within normal limits for a neutered male.

Kidneys

The **left** kidney measures 4.19 cm (within normal limits). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. Cortical echogenicity is within normal limits, i.e. it is hypoechoic to the spleen. However, a hyperechoic "band" is observed along the medulla, traversing parallel to the corticomedullary junction, which accentuates its definition. Occasional mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.67 cm (within normal limits). Findings are similar to the left kidney.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.58 cm at the cranial pole, 0.46 cm at the caudal pole. The cranial pole is "rounded" and more "plump", however, there is no evidence of a mass or a well-defined nodule. No abnormalities are noted with the gland's echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.72 cm at the cranial pole, 0.55 cm at the caudal pole. There is no evidence of a mass or nodule at the cranial pole, which is at the high end of the normal reference range. No abnormalities are noted with the gland's echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

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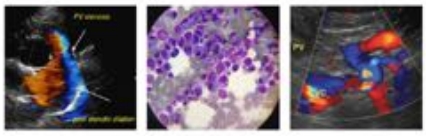

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The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. A subcapsular, hypoechoic nodule measuring 0.50 cm in diameter x 0.46 cm in length is present mid-body. It does not disrupt the integrity of the capsule. Perivascular cuffing is observed at the hilus. The latter is consistent with a myelolipoma, which is benign and not clinically significant. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

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. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels.

The gallbladder (GB) wall is within normal limits in thickness and echogenicity. A very small amount of echogenic material is present within the GB. 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.

Gastrointestinal

A large amount of gas, fluid 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, however, the muscularis and submucosa appear more prominent than usual. No obvious abnormalities are observed with its peristalsis.

Duodenum: Wall thickness is mildly increased at 0.59 cm, however, the definition of the wall layers is preserved. Very mild fogging of the mucosa is present. A small amount of gas and fluid are present within the lumen. Peristalsis appears mildly decreased, i.e. a "to and fro" motion is observed.

Jejunum: Wall thickness is mildly increased 0.50 cm, 0.44 cm. The definition of the wall layers is preserved, however, subjectively, very mild to moderate fogging of the mucosa is present depending on the segment evaluated Abnormally dilated loops of bowel are not observed. Gas and fluid are present within the lumen. 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 left limb pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Subjectively, the right limb is mildly hypoechoic, however, it is not enlarged and its contours are smooth and regular. The surrounding mesentery is moderately to severely hyperechoic. That is, signs of active pancreatitis cannot be excluded. Signs of neoplasia are not appreciated.

Other

Lymph nodes No abnormalities are observed

Abdominal effusion is not visualized.

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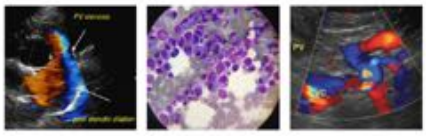

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ULTRASONOGRAPHIC FINDINGS

- **Pancreas**: Signs of active pancreatitis affecting the right limb cannot be excluded. Signs of neoplasia are not appreciated.
- **Gastrointestinal tract:** The small intestines (duodenum and jejunum) are very mildly thickened and subtle signs of inflammation are noted. A review of Gizmo's history for signs of vomiting, defecation (consistency and frequency of bowel movements, etc.) signs of pica, gastroesophageal reflux disease, etc., is suggested to exclude an underlying chronic enteropathy (e.g. steroid responsive type inflammatory bowel disease, food responsive vs. food intolerance, fibre responsive diarrhea, etc.).
- **Kidneys**: A medullary "rim band" may be suggestive of inflammation and/or proteinuria in some individuals. Recent administration of steroids may be responsible. Pyelonephritis is unlikely, but cannot be excluded despite the absence of classical sonographic signs.
- **Spleen**: Differential diagnoses for the hypoechoic nodule include nodular or lymphoid hyperplasia and extramedullary hematopoiesis. Neoplasia, such as lymphoma, or other round cell tumour, is considered highly unlikely.
- **Adrenal glands**: The cranial pole of the left gland is "rounded" and more "plump", while the cranial pole of the right is at the high end of the normal reference range. These findings may be due to hyperplasia secondary to stress, chronic illness, and short term administration of steroids. There is no evidence of a mass or a well-defined nodule. Hyperplasia secondary to a pituitary-dependent hyperadrenocorticism is considered unlikely (absence of clinical signs).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Urine culture and sensitivity to exclude pyelonephritis

Urine protein creatinine ratio, if the culture is negative.

Avoid steroids if recurrence occurs.

Most dogs often require longer immunosuppression for treatment of masticatory myositis, therefore, one may want to start mycophenylate right away and treat for a few more months (at the minimum effective dose), or have clients monitor Gizmo's comfort level, ability to eat, play, open mouth, etc. very closely vs. starting mycophenylate at first sign of deterioration.

Cyclosporine another option, although, it can affect blood glucose concentrations in humans and dogs, based on literature.

Psyllium may be added to the diet to help regulate his diabetes (avoid formulations with sugar AND ensure they are not sweetened with xylitol). Supplementation may also help (sonographic) GI changes.

A Freestyle LIBRE sensor can be placed for close at home monitoring, particularly with the cessation of steroids.

GI changes: Deworm with fenbendazole, even if receiving monthly heartworm prevention.

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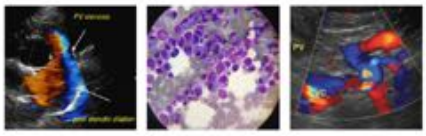

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+/- spec cPL, cobalamin and folate,

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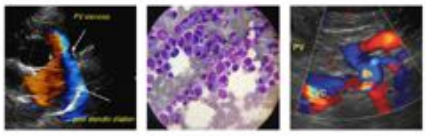

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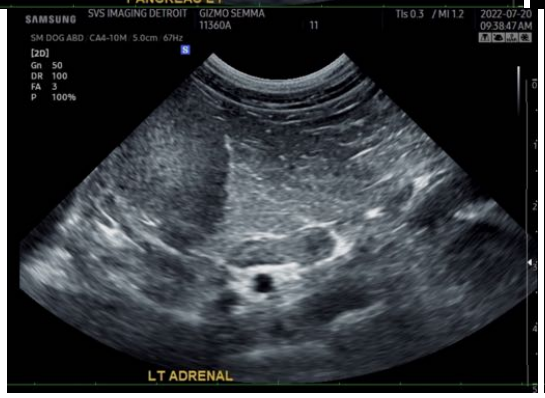

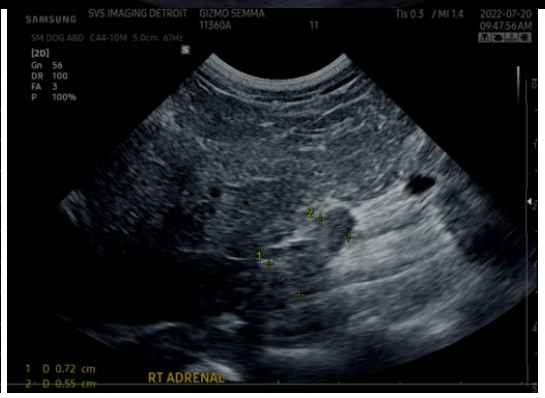

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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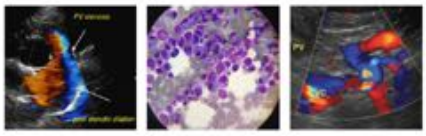

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

Lisa.Carioto@sonopath.com