SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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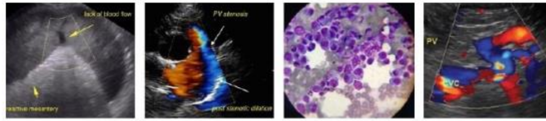


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT
Cara Kauffman

SPECIES
Canine

BREED
Airdale

SEX
Spayed Female

AGE
7 Years

WEIGHT
23.3 kg

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate

IMAGING PERFORMED BY
Kelly Reschny

HOSPITAL NAME
Preston AC

REFERRING VET
Dr. Rosenfeld

INVOICE
15792

DATE
5/27/22

PRESENTING CLINICAL SIGNS

History: weight loss in the last year (-4kg), intermittent loose stools

Abnormal PE/Chem/CBC/UA Results: Mild hypochromic microcytic non-regenerative anemia mildly increased creatinine, increased TP, decreased ALB, Increased GLB, low ALB: GLB

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is well distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A very small amount of free-floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 6.08 cm. The capsule is smooth. The cortex is moderately hyperechoic with a slightly “granular” echotexture. A mild loss of the normal definition of the cortico-medullary junction is present. There is no evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. Blood flow appears within normal limits (panting artifact). The surrounding mesentery is very mildly hyperechoic.

The **right** kidney measures 5.93 cm. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.52 cm at the cranial pole, 0.57 cm at the caudal pole and 2.35 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.

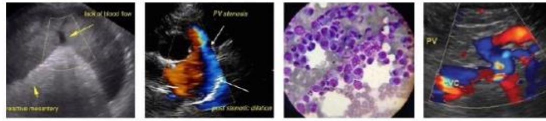
The **right** adrenal gland is not well visualized due to gas in the surrounding gastrointestinal tract. It is enlarged. It measures approximately 2.01 cm at the cranial pole, 0.78 cm at the caudal pole and 2.14 cm in length. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

Mild splenomegaly is suspected. Although the curvilinear architecture is maintained and the overall echogenicity is within normal limits, the spleen appears mildly “swollen”. A single, well, delineated hypo to anechoic nodule with scalloped contours is noted mid-body. It is avascular and measures 1.37 cm in diameter x 1.53 cm in length. The center of the nodule is mildly echogenic and acoustic enhancement is present surrounding the nodule. A subtle, diffuse, miliary echotexture is observed. 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 with radiographs. The liver’s borders are smooth and sharp. A diffuse, mildly coarse or granular echotexture is observed. No obvious abnormalities are noted with the hepatic vessels.



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The gallbladder 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

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. The duodenum is mildly corrugated. A large amount of gas is present in the GI tract. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal. A large amount of formed stools are present in the colon.

Pancreas

No overt abnormalities are observed with the echogenicity of the pancreas. A very subtle coarse echotexture is present, which is suggestive of age-related changes. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis or neoplasia are not appreciated.

Other

Lymph nodes

No abnormalities are observed

Abdominal effusion is not visualized.

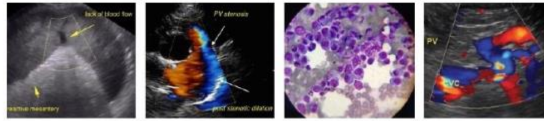
ULTRASONOGRAPHIC FINDINGS

- **Spleen**: Extramedullary hematopoiesis (EMH) is possible (anemia), as is nodular or lymphoid hyperplasia, however, a plasmacytoma cannot be excluded. The subtle, but diffuse miliary echotexture may be due to splenitis, as well as EMH.

- **Right adrenal gland:** An in-depth evaluation is affected by the gas in the surrounding GI tract. The gland is enlarged, with the cranial pole being larger and irregular compared to the caudal. Differential diagnoses include hyperplasia due to stress and chronic illness. An adenoma is possible, however, a pheochromocytoma cannot be excluded. A carcinoma is considered less likely.

- **Liver:** Vacuolar and reactive hepatopathies may explain the diffuse hyperechogenicity and suspected hepatomegaly and mildly coarse, granular echotexture, respectively. Cholestasis is also possible. Differential diagnoses, such as hepatitis, cholangitis/cholangiohepatitis are considered less likely, but should be correlated with clinical signs.

- **Gastrointestinal:** A large amount of gas is present in the GI tract, therefore, subtle changes may be overlooked. The absence of abnormalities does not exclude an underlying disease, such as inflammatory bowel disease or malabsorptive disease. Occult gastrointestinal hemorrhage may be the cause of iron deficiency anemia.



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- **Gallbladder sludge**: Most likely clinically insignificant, however, gastroesophageal reflux disease (GERD), may occur in some patients. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor may be required depending on the patient's history. Signs of suppurative cholecystitis are not apparent.

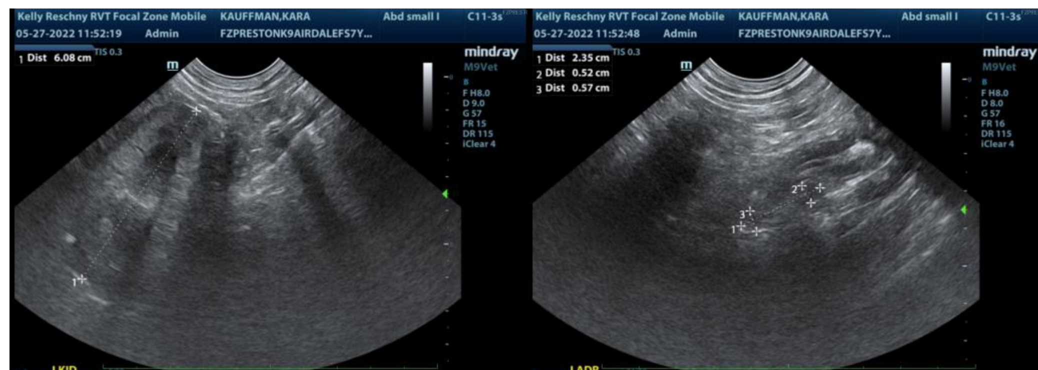
- **Kidneys:** Consistent with age related degenerative changes. However, glomerulonephritis cannot be excluded. Obvious signs of pyelonephritis are not appreciated, but cannot be excluded.

- **Pancreas**: Age-related changes are noted. Signs of active pancreatitis or neoplasia are not appreciated.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The following are suggested

- Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor may be required depending on the patient's history.
- Exclude malabsorptive disease; A TLI, serum cobalamin, and folate
- Deworm (fenbendazole)
- Arterial blood pressure
- Urinalysis and urine culture and sensitivity
- +/- evaluation of catecholamines (consider if hypertensive)
- Urine protein: creatinine ratio, if urine culture and sensitivity negative (to exclude glomerulonephritis)
- If proteinuria confirmed: SNAP 4Dx, PCR for *Leptospira* spp. or serology, +/- evaluation for *Bartonella* spp.
- Fine needle aspirate of the spleen and splenic nodule (Coagulation profile prior)
- Exploratory laparotomy to perform a splenectomy and obtain GI and liver biopsies may also be considered, i.e. both diagnostic and therapeutic with regard to the spleen.
- Note: Thoracic radiographs (three views) to exclude metastases prior to going to surgery



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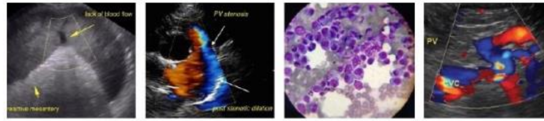

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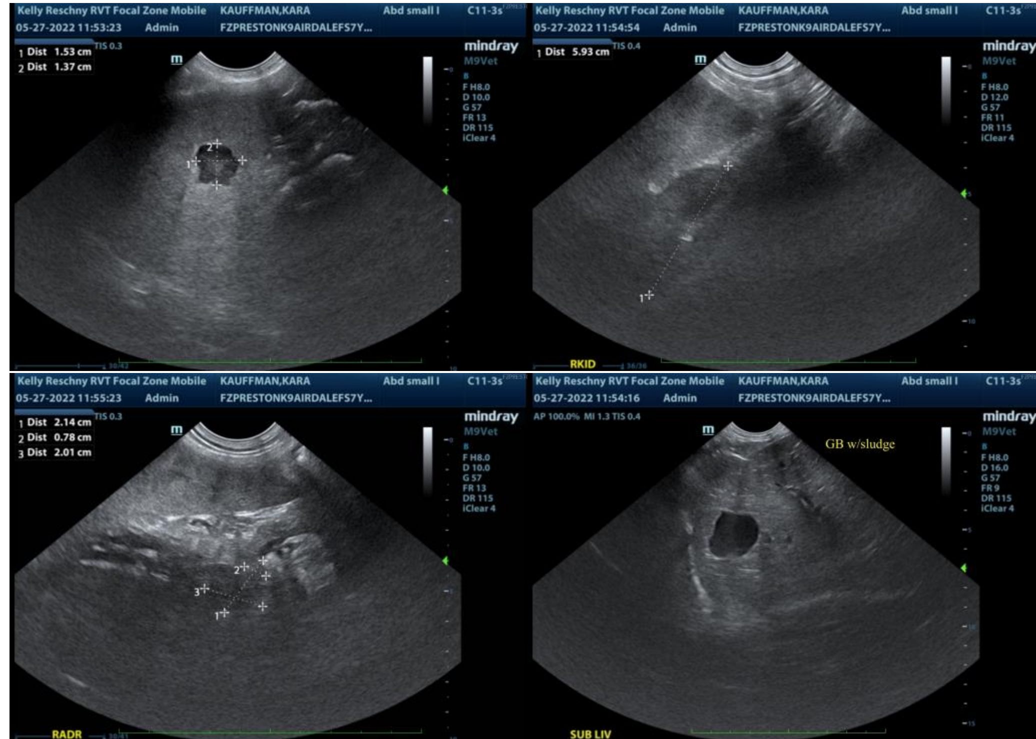

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Lisa.Carioto@sonopath.com