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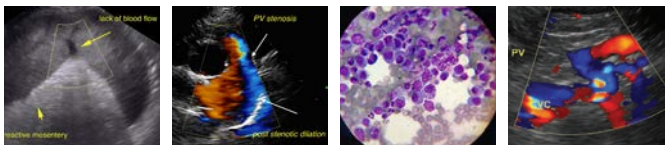


PATIENT
Cooper Coia

SPECIES
Canine

BREED
Sheltie

SEX
Intact Male

AGE
12 Years

WEIGHT
18 Pounds

INTERPRETED BY
Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY
Dr. Karen Fowler

HOSPITAL NAME
Portland Vet Wellness Center

REFERRING VET
Dr. Karen Fowler

INVOICE
39367

DATE
7/8/22

PRESENTING CLINICAL SIGNS

P presented as new client from Texas, moved last month. was seen in April by a vet and o reports they diagnosed with splenic cancer..I reviewed a few ultrasound clips sent along and suspected myolipomas but recommended full AUS with review and vet did not have strong background in imaging and had not sent out images. P also has had intermittent unilateral epistaxis for > 6 months- worse with stress, has not happened in last month. was a concern at april vet visit.
Abnormal PE/Chem/CBC/UA Results: Lymphocytes 0.936 1.06 - 4.95 K/µL (0.82 in April) Thrombocytopenia persistent - Platelets 95 143 - 448 K/µL (110 in april) Platelet Comments: Platelets appear moderately decreased on the blood film (50,000-100,000 per microliter). Large platelets present: Remarks Slide reviewed microscopically. No parasites seen Chem 10 wnl april 4dx test: FAINT ehrlichia positive snap, re-ran and machine read as negative but appeared very faintly positive

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.

The **prostate** is homogenous and measures 1.77 cm; within normal limits for a neutered male.

Kidneys

The **left** kidney measures 4.89 cm. The capsule is smooth. The cortex is mildly hyperechoic, i.e., it is isoechoic to the spleen. Its overall architecture, including the definition of the cortico-medullary junction, is well preserved for a dog of Cooper's age. Very small mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow is within normal limits. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.94 cm. The cortex is mildly hyperechoic. Its overall architecture, including the definition of the cortico-medullary junction, is well preserved for a dog of Cooper's age. Very small mineralizations of the diverticulae and pelvis are present, with a small nephrolith (acoustic shadow noted). There is no evidence of pyelectasia. Blood flow is within normal limits. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

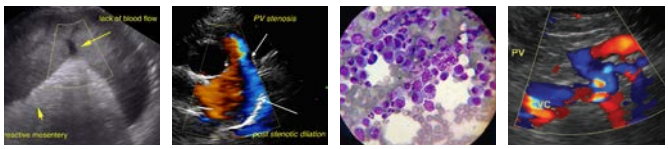
Adrenal Glands

The **left** adrenal gland measures 0.52 cm at the cranial pole, 0.41 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 0.30 cm at the cranial pole, 0.34 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

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. Perivascular cuffing of multiple blood vessels is observed throughout the spleen. The severity of cuffing varies, with some coalescing with one another forming larger mass-like lesions. One of the largest ones measures 1.14 cm in diameter x 1.29 cm in length. Occasional, punctate, ill-defined,



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hyperechoic foci are present In addition to the perivascular cuffing. The latter are most likely due to mineralization, deposition of fat, possible ischemia, or a combination of the three. There are no signs of neoplasia. No obvious 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. Occasional, small, hypoechoic nodules are noted scattered amongst the hepatic parenchyma, which are attributed to nodular hyperplasia. Target-like lesions are not observed, and no abnormalities are noted with the hepatic vessels.

The **gallbladder** (GB) is moderately distended with a moderate to large amount of immobile, inspissated echogenic material (sludge), and a small amount of free floating sludge. The GB wall is very mildly thickened at 1.3 mm, and mildly hyperechoic. A small amount of sludge is present at the neck of the cystic duct. 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. The parenchyma surrounding the GB is not hyperechoic. An emerging mucocoele is suspected.

Gastrointestinal

A large amount of ingesta and gas 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. Gas and ingesta are present within the duodenum and small intestines. Abnormally dilated loops of bowel are not observed.

A large amount of gas is present within 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.

Pancreas

The pancreas has a mildly coarse echotexture, which is considered secondary to age related changes, however, previous episodes of pancreatitis cannot be excluded. There are no signs of active pancreatitis or neoplasia.

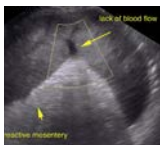
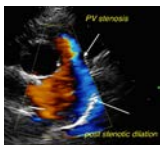
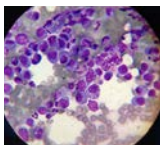
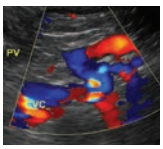
Other

Lymph nodes No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Spleen**: The "nodules" and "masses" are myelolipomas, which develop as a result of deposition of fat surrounding blood vessels; they are clinically insignificant. The isolated hyperechoic foci also noted throughout the splenic parenchyma are most likely due to mineralization, deposition of fat, possible ischemia, or a combination of the three. There are no signs of neoplasia.

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- **Gallbladder**: An emerging mucocoele is suspected. Although the presence of gallbladder (GB) sludge may not be clinically significant, the sludge in Cooper's GB is inspissated and immobile, thereby increasing the suspicion of a mucocoele. Furthermore, the Shetland sheepdog is predisposed to the development of mucocoeles. Some dogs may show clinical signs of gastroesophageal reflux disease (GERD) as a result of the sludge, therefore, obtaining a history regarding signs of GERD from the client is suggested. Treatment with ursodeoxycholic acid, with or without an anti-acid, proton pump inhibitor, may be required depending on his history. If liver enzyme activities are elevated, including the GGT, cholecystitis, with a possible secondary bacterial infection, may be present.
- **Liver**: Nodular hyperplasia, an age-related change, is present. There are no signs of neoplasia.
- **Kidneys**: Very mild age-related degenerative changes are noted.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Cooper is not suffering from cancer of the spleen or any organ based on today's ultrasound.

Fasting triglycerides (minimum of 12 hours) to determine whether dietary changes are recommended.

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

Treatment with ursodeoxycholic acid (Ursodiol) is suggested to prevent further accumulation of debris and help liquify the sludge that is currently present. A total dose of 10-15 mg/kg divided twice daily is suggested. The dose should be gradually uptitrated (over a few weeks) until the maximum dose is achieved to avoid gastrointestinal side effects. Administer with a meal to decrease risks of GI side effects. A sonographic re-evaluation of the gallbladder is strongly suggested 2-4 months following the initiation of ursodeoxycholic acid to ensure it is effective.

Note, *Ursodiol should not be started concurrently with the other medications, i.e. treatment of ehrlichiosis is far more important at the moment.*

PCR for vector borne diseases is suggested, as many of these may cause thrombocytopenia and epistaxis, and a few may co-exist.

Administration of doxycycline 5 mg/kg PO q12h, with a meal, for 4-8 weeks is suggested.

Re-evaluation of blood work (serum biochemical profile) in 2 to 3 months, including a GGT, cholesterol, total bilirubin, i.e. 6 months since his previous blood work (performed in April). If fasting triglycerides are elevated and dietary changes are made, TGs should be repeated at the same time as the above blood work.

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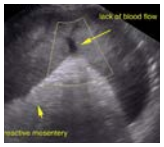
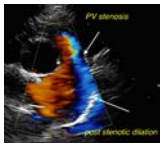
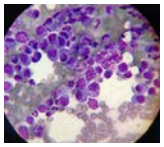
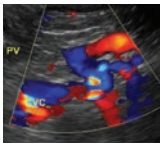

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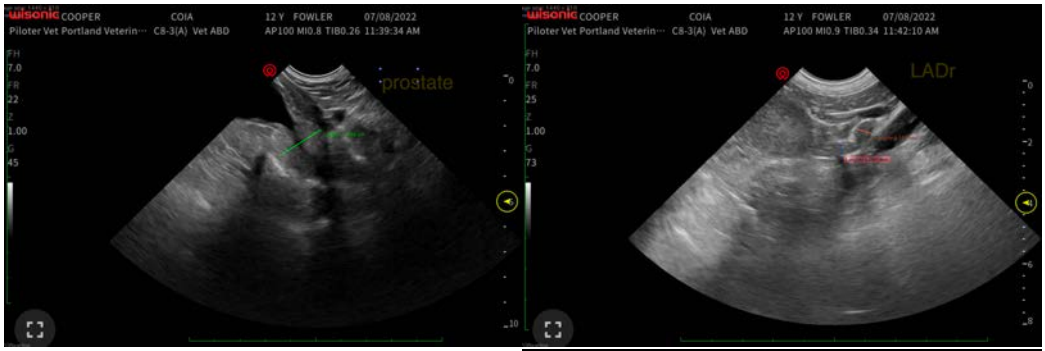

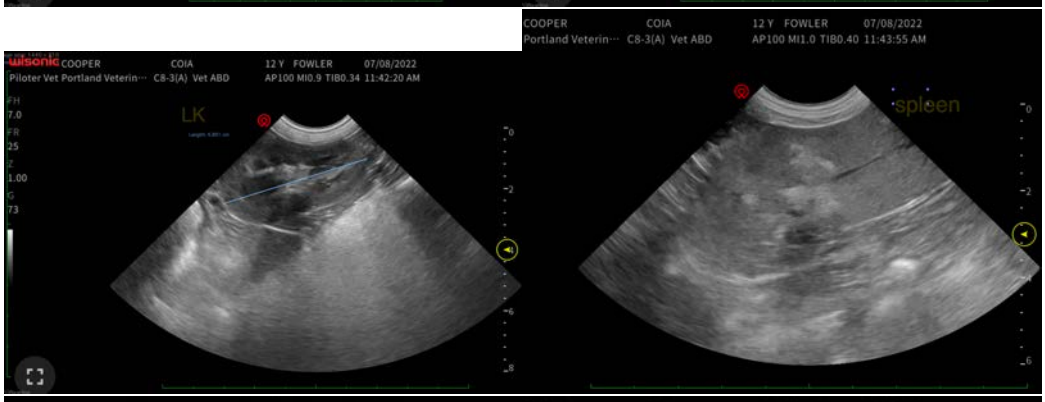

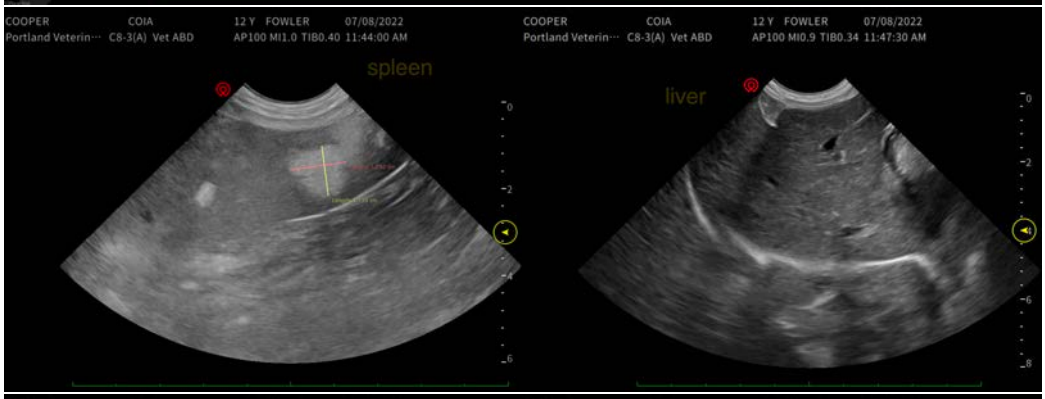

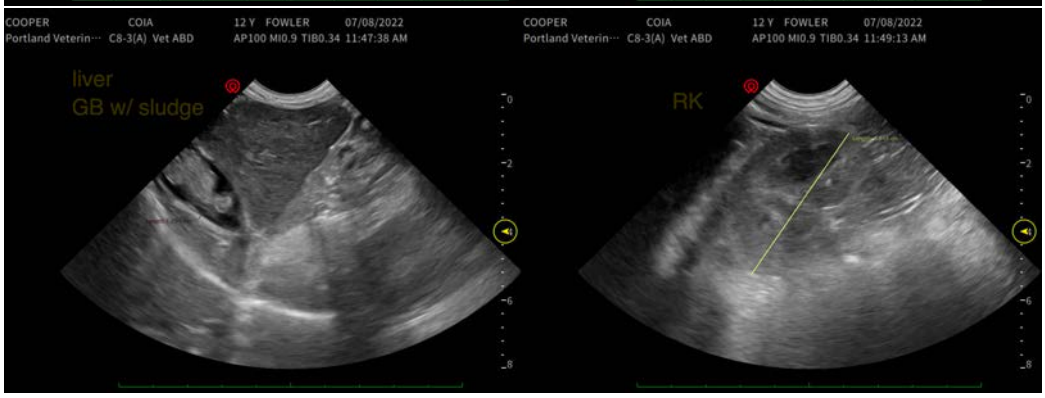

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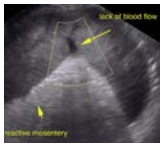
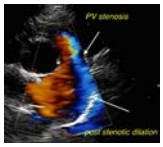
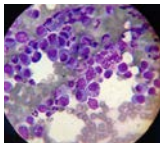
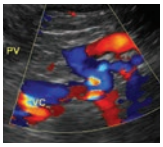

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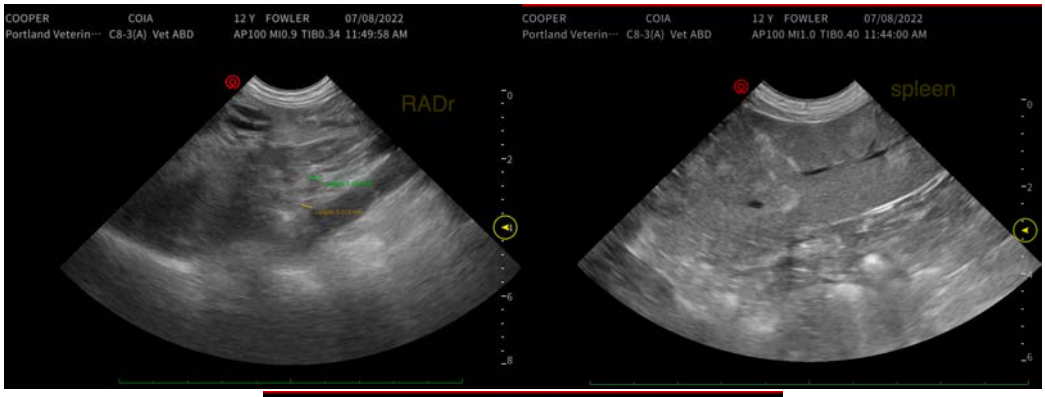

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Lisa.Carioto@sonopath.com