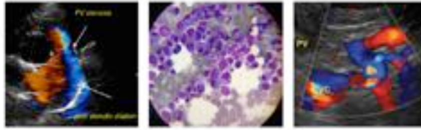
IMAGING PERFORMED BY

SVS Mobile Imaging 262-366-5970
fredgromalak@gmail.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Haley Freund 268650

SPECIES
Canine

BREED
Boston Terrier

SEX
Spayed Female

AGE
7 years

WEIGHT
15.9 kg

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY
Tom McNeill

HOSPITAL NAME
SVS Imaging CT

REFERRING VET
WVRC Dr. Mallo

INVOICE
30020

DATE
4/29/22

PRESENTING CLINICAL SIGNS

Haley is a 7y 0m SF Boston Terrier who presented to WVRC's Emergency Service on 4/29/2022 for not wanting to eat the past ~48 hours, as well as seeming very lethargic and "spaced out". No vomiting or diarrhea. Today, owner suddenly noticed that her skin and gums turned yellow. This was NOT appreciated as of about 6 hours ago/earlier this morning. Her urine this AM was red/orange in color (normal color last night).
Abnormal PE/Chem/CBC/UA Results: CBC: Hct 25 (L), RBC 3.4 (L), Hgb 8.0 (L), seg neuts abs. 11.9 (H), mono abs. 1.2 (H), Plt 190 (N); nRBC 1 Diff from Zoetis Labs: 1++polychromatophils Saline agglutination test - Negative WBC Review Result Note: See Note A manual differential was performed. WBC morphology is unremarkable. Platelet Review Result Note: See Note Few small platelet clumps seen. The value reported above is the automated platelet concentration and represents the minimum platelet concentration due to the platelet clumping. Few macroplatelets are present. Chem/lytes: Creat 0.5 (L), BUN 21 (N), K 3.5 (L), tbili 6.2 (H), all other values WNL UA (cysto): USG 1.054, pH 6.5, bilirubin 3+, blood 1+, protein 1+; sediment - RBC 6-10/hpf, otherwise benign. PT: 7.3 (N) PTT: 11.6 (N)

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.

Kidneys

The **left** kidney measures 5.88 cm. The capsule is smooth. The cortex is mildly hyperechoic, i.e. the cortex is isoechoic to the spleen. A very mild loss of the normal definition of the cortico-medullary junction is present. Very mild mineralizations of the diverticulae are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is very mildly hyperechoic.

The **right** kidney measures 5.74 cm. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.62 cm at the cranial pole and 0.57 cm at the caudal pole. The cranial pole is very mildly increased for a dog of Haley's stature, however, no abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. There is no evidence of a mass. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.63 cm at the cranial pole and 0.79 cm at the caudal pole. The caudal pole is moderately enlarged, and "plump", however, no abnormalities are noted with the gland's echogenicity or echotexture. There is no evidence of a mass. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

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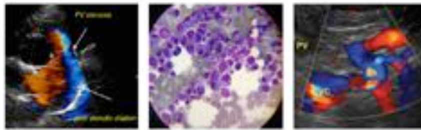

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Spleen

Mild to moderate splenomegaly, with preservation of the architecture, echotexture, and echogenicity. The capsule is smooth. 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. The walls of the portal veins are mildly prominent. No other abnormalities are observed with the hepatic vessels visualized.

The gallbladder wall is within normal limits in thickness and echogenicity. There is no evidence of echogenic material within the GB or edema surrounding it. The cystic and common bile ducts are not visualized, however, there are no obvious signs of an obstruction.

Gastrointestinal

A large amount of gas is 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. Abnormally dilated loops of bowel are not observed. No abnormalities are observed with the ileo-cecal-colic junction.

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

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

Other

Lymph nodes

The gastric lymph node is hypoechoic, mildly prominent and "plump", measuring 0.51 cm. No other lymph nodes are considered abnormal.

Abdominal effusion is not visualized.

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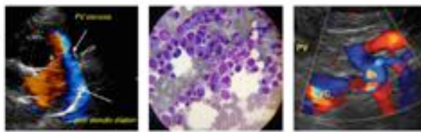

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ULTRASONOGRAPHIC FINDINGS

- Splenomegaly with preservation of the normal architecture. The most likely cause is extramedullary hematopoiesis secondary to Haley's anemia. However, other differential diagnoses to consider include antigenic stimulation and secondary inflammation, such as splenitis, as well as immune mediated induced inflammation. Infectious diseases cannot be excluded. Other differential diagnoses include, hypersplenism and reactive hyperplasia. Neoplasia, such as lymphoma, mast cell tumour, histiocytic sarcoma, or other round cell tumor cannot be excluded. A fine needle aspirate is required to achieve a definitive diagnosis.

- There are no obvious abnormalities observed with the liver, however, the presence of bilirubinuria and icterus on physical exam are consistent with a hepatic abnormality. Leptospirosis should be considered, particularly in light of the other abnormalities observed on Haley's urinalysis. Cholestasis, cholangitis/cholangiohepatitis, and cholecystitis are considered less likely.

- The renal abnormalities are subtle, however, glomerulonephritis and interstitial nephritis must be considered. Pyelonephritis cannot be excluded despite the absence of sonographic abnormalities.

- Although the in saline slide agglutination test was negative, re-evaluation of the blood smear is suggested to exclude the presence of spherocytes. A reticulocyte count is also recommended.

- An evaluation of Haley's history with the clients to exclude gastrointestinal hemorrhage is recommended, for example, ingestion of medications or natural supplements, including non-steroidal anti-inflammatories.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An arterial blood pressure are recommended to rule out hypertension.

A urine culture is recommended to exclude pyelonephritis. Treatment with enrofloxacin may be considered pending the results.

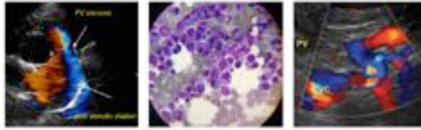
If the urine culture is negative, a urine protein: creatinine ratio is suggested. Note, it may be necessary to repeat it in a few weeks once systemic inflammation has resolved.

A SNAP 4 Dx is recommended, in addition to PCR testing for *Leptospira* spp., +/- *Bartonella* and other vector borne diseases.

Treatment with intravenous ampicillin is suggested to treat leptospirosis and other vector borne diseases pending laboratory results.

Pantoprazole, administered twice a day intravenously, is suggested, to treat for possible gastrointestinal hemorrhage. Omeprazole administered per os twice a day may be used if the former is not available.

Analgesia for visceral pain is suggested as splenomegaly can be uncomfortable due to stretching of the capsule.



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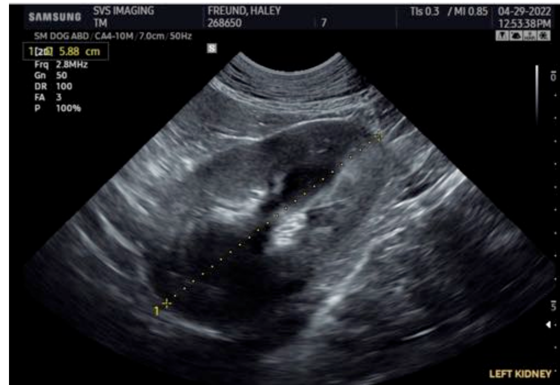
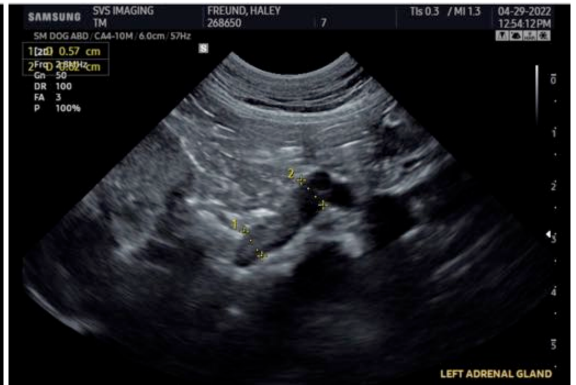
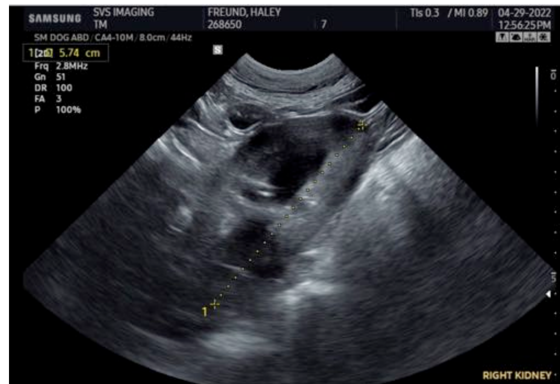
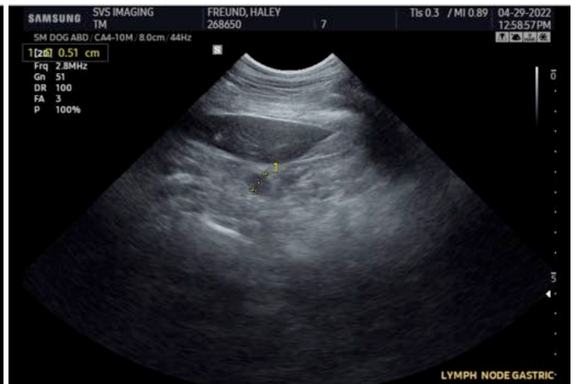
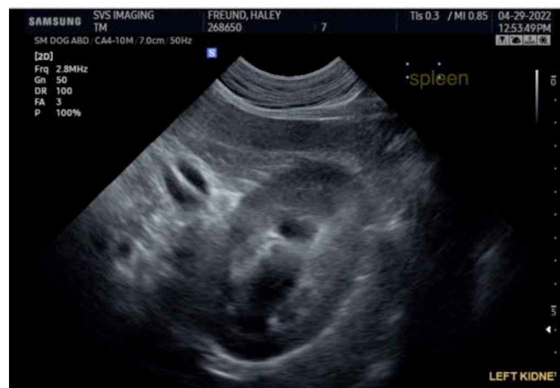
Fine needle aspirates of the spleen and liver may be required if no improvement is observed with the above treatment recommendations.

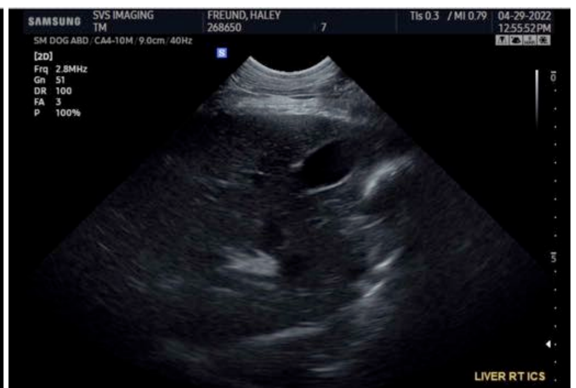












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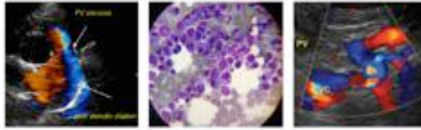

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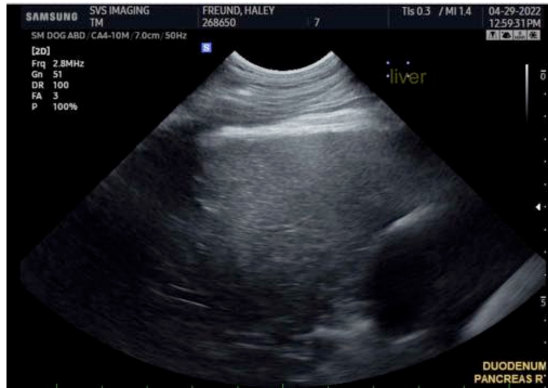

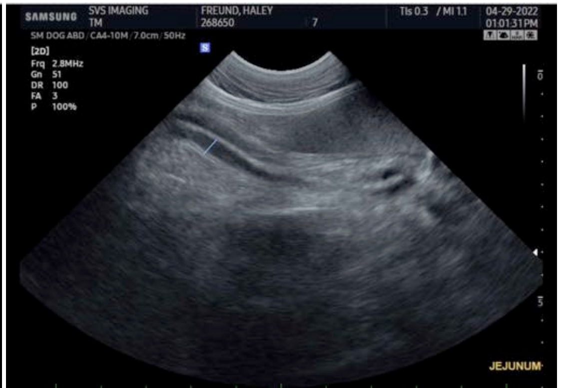

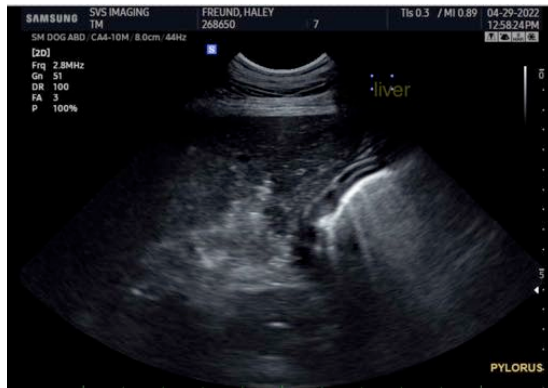

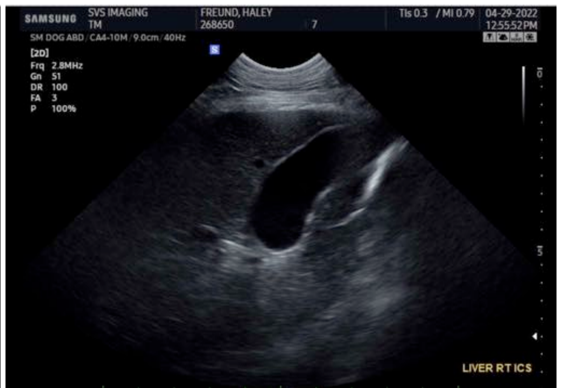

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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