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Clinical Sonography & Telecytology
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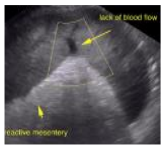
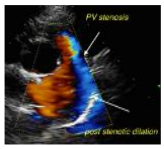
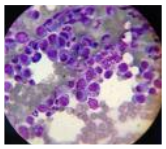
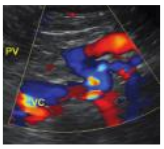





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Blue Hayden

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

16 Years 11 Months

WEIGHT

101 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Union Lake VH

INVOICE

15798

DATE

5/27/22

PRESENTING CLINICAL SIGNS

History: Presented for weight loss, Lost 1 # since Oct 2021.

Abnormal PE/Chem/CBC/UA Results: 2 view whole body rads, focusing on liver/abd- chest appears clear and heart wnl size, there is a small buldge on VD crainial heart-aotra?, Spondylosis L-S and T6-7, Liver enlarged and appears like a mass effect ventrally and displacing stomach dorsally and caudally, Increased gas in stomach and colon, Maybe arthritic stifles. There is a shot pellet in LH limb. ALT: 95, FPLI: 11.8

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. A scant amount of anechoic fluid is visualized ventral to the apex of the urinary bladder.

Kidneys

The **left** kidney measures 4.44 cm (3.80-4.40 cm). The capsule is smooth. The cortex is hyperechoic (iso to very mildly hyper to the spleen). A very mild loss of the normal definition of the cortico-medullary junction is present. Its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.00 cm (3.80-4.40 cm). Findings are similar to the left kidney.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.29 cm at the cranial pole and 0.22 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.

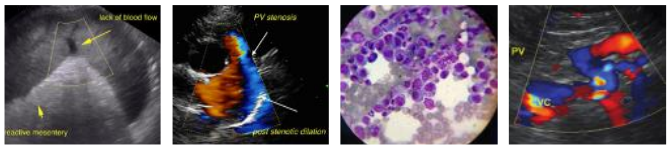
The **right** adrenal gland measures 0.33 cm at the cranial pole and 0.24 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is mildly enlarged in size 11.5 mm (normal = 10 mm) and is folded on itself. It is within normal limits in 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 vary between sharp to mildly rounded. The liver is mildly hyperechoic and is heterogeneous (see masses, below). In addition to the masses observed, multiple hyperechoic nodules are present scattered throughout the parenchyma. No abnormalities are observed with the hepatic vessels visualized.



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Left liver - Sagittal view: a hyperechoic mass, measuring 2.56 cm in diameter x 3.95 cm in length is observed. A few hyperechoic nodules and smaller hyperechoic foci are noted throughout the mass. Transverse view: The curvilinear border is smooth. The parenchyma is moderately heterogeneous with multiple hyperechoic nodules of variable size.

Caudate lobe - An irregularly contoured, well-delineated, hyperechoic mass measuring 1.45 cm in diameter x 1.79 cm in length, containing anechoic lacunae is noted. The nodule and anechoic lesions are avascular.

The **gallbladder** lumen is moderately distended. The wall is normal in thickness and echogenicity. A moderate amount of free floating, gravity dependent and inspissated echogenic debris is observed within the lumen and cystic duct, which is dilated and tortuous. The common bile duct is also dilated and measures up to 0.57 cm. The intrahepatic ducts are not dilated, i.e., an intrahepatic obstruction is not observed.

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.

Ascites is present surrounding the duodenum.

Duodenum: 0.21 cm. A large amount of gas and fluid are present within the lumen, with decreased peristalsis.

The small intestinal wall thickness is mildly to moderately thicker than normal. The definition of the wall layers is preserved. Ileum 0.23-0.26 cm; Jejunum 0.36 cm. No abnormalities are observed with the ileo-cecal-colic junction.

The colonic wall is not thickened and mural detail is considered normal.

Pancreas

The pancreas is diffusely hypoechoic. Pinpoint and small punctate, hyperechoic foci are noted in the parenchyma, which are most likely due to fibrosis secondary to age-related changes and possible previous episodes of pancreatitis. The surrounding mesenteric fat is mildly hyperechoic. These findings are suggestive of active pancreatitis. Overt signs of neoplasia are not noted.

Other

Lymph nodes

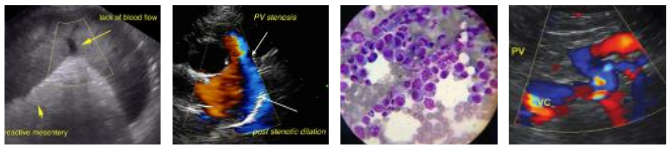
No abnormalities are observed

Abdominal effusion

A scant amount of anechoic fluid is visualized ventral to the apex of the urinary bladder and a few loops of jejunum in the caudal abdomen and surrounding the duodenum.

ULTRASONOGRAPHIC FINDINGS

- **Liver**: The mass in the caudate lobe may be a cystadenoma (organized), however, a cystadenocarcinoma cannot be excluded. The hyperechoic mass and hyperechoic nodules in the left liver lobe may be an area of fibrosis with areas of nodular regeneration and fibrosis. Other differential diagnoses for the hepatic changes and abnormalities of the GB and biliary



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tree include cholestasis, cholangitis/cholangiohepatitis, and cholecystitis. A secondary bacterial infection cannot be excluded. A partial extra-hepatic obstruction is suspected.

- **Gastrointestinal tract:** Inflammatory bowel disease is possible. Ileus of the duodenum is present, which is attributed to a partial post-hepatic obstruction. Lymphoma is considered unlikely.
- **Pancreas**: Active pancreatitis and age-related changes are noted. Overt signs of neoplasia are not appreciated.
- "Triaditis" cannot be excluded.
- **Kidneys**: age-related changes are suspected, including interstitial nephrosis. Pyelonephritis cannot be excluded despite the absence of classical sonographic signs.
- Ascites

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A urinalysis and culture and sensitivity would be ideal.

An analgesia trial for visceral pain, for example, buprenorphine is highly recommended, for 5-7 days. Continue for 3-4 weeks if an improvement is noted.

FNA of the liver pending coagulation profile

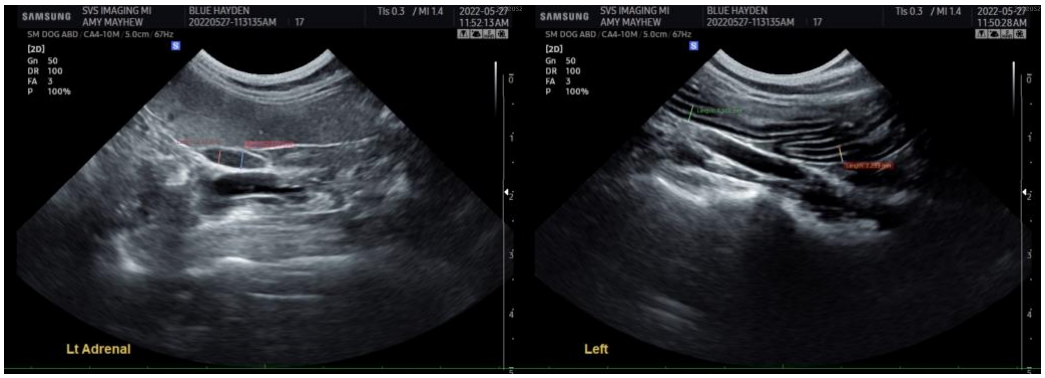
Vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses) recommended, even if PT/PTT within normal limits due to possible cholestasis.

Supportive care: maropitant, mirtazapine, subcutaneous fluids at home (if possible).

TLI, serum cobalamin, and folate to assess for underlying maldigestion and malabsorption disease (exocrine pancreatic insufficiency).

Small, frequent meals are recommended.

If signs of GERD, 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO q12h)
Differential diagnoses include cholecystitis, cholangitis/cholangiohepatitis, and secondary ascending bacterial infections. Although indiscriminate use of antibiotics is not recommended, one could consider broad-spectrum antibiotic prior to pursuing FNA depending on client preference.



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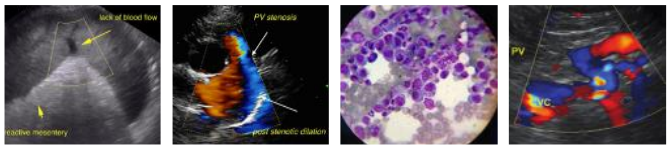

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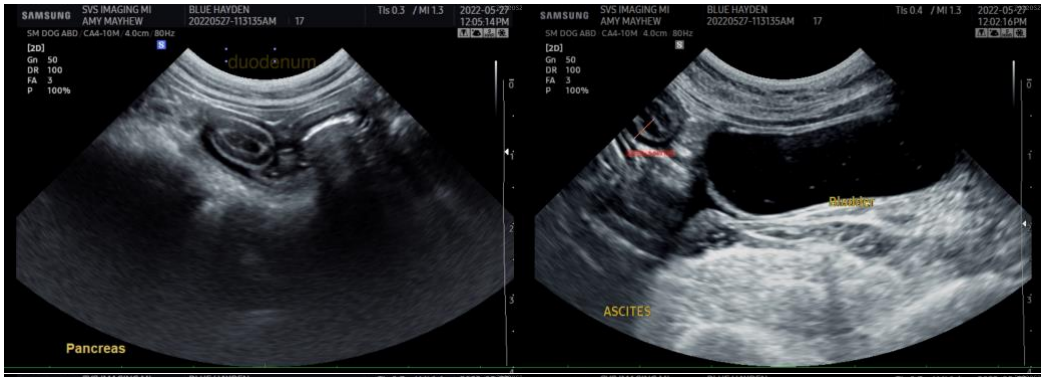

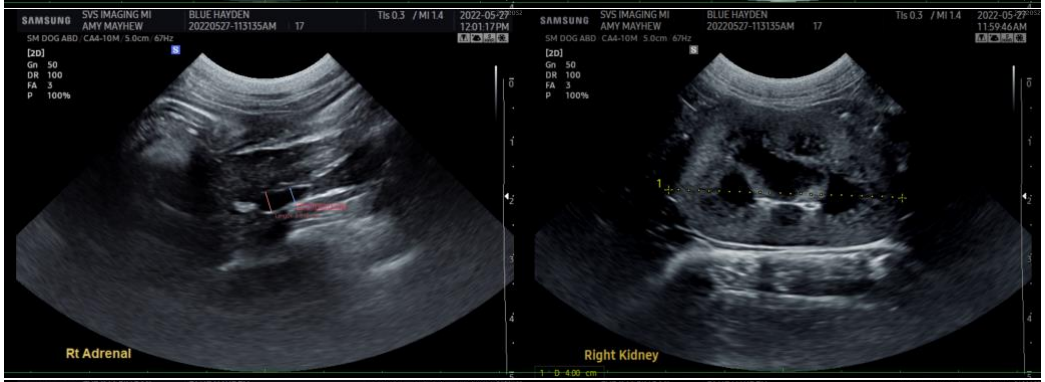

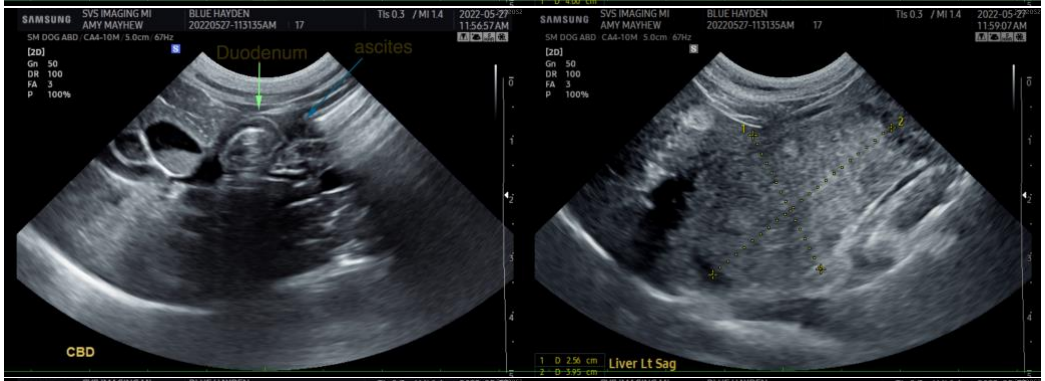

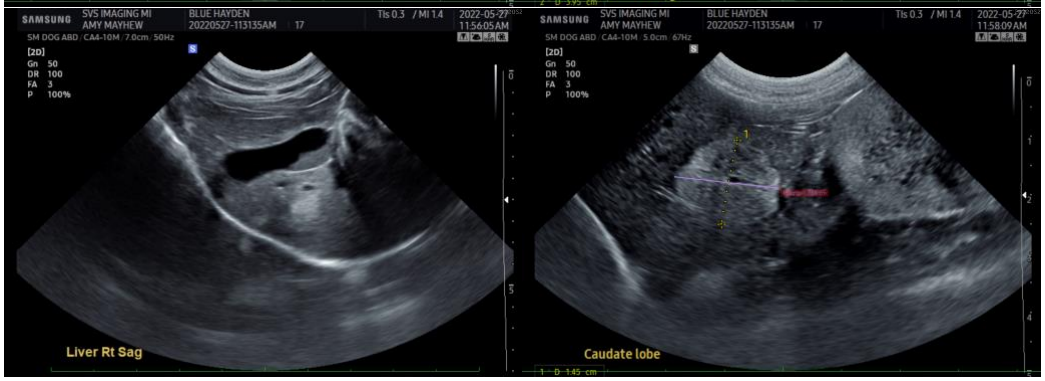

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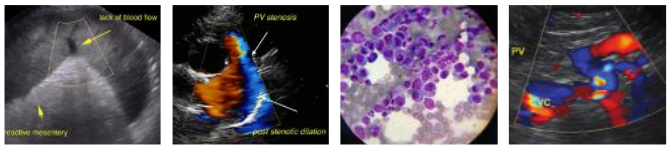

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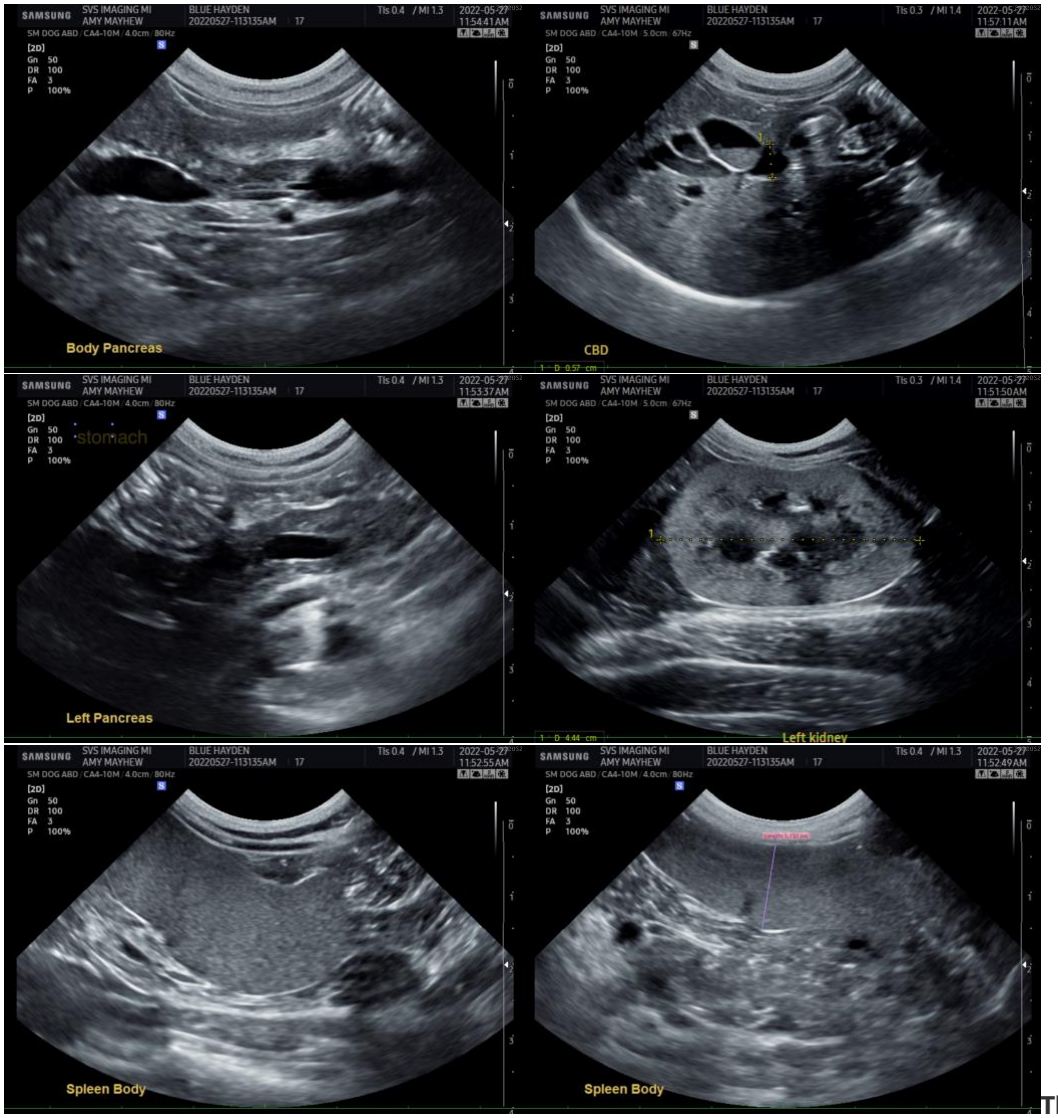

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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