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Clinical Sonography & Telecytology
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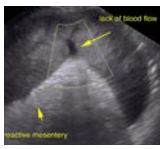
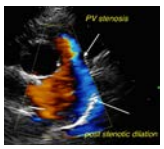
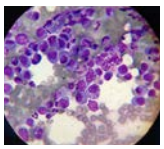
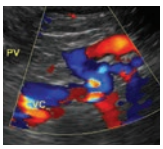

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1-800-838-4268 info@sonopath.com

PATIENT
Sweet Pea Finn

SPECIES
Feline

BREED
DSH

SEX
Spayed Female

AGE
11 Years

WEIGHT
8.6 Pounds

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Ho-Ho-Kus VH

REFERRING VET
Dr. Dan Eisenberg

INVOICE
39799

DATE
7/22/22

PRESENTING CLINICAL SIGNS

Weight loss.
Abnormal PE/Chem/CBC/UA Results: CBC/Chem: WNL. T4 2.4. USG: 1.045.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is adequately distended with anechoic contents. 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. Multiple echogenic structures with a corresponding acoustic shadows are noted at the junction of the apex and dependent wall. The echogenic structures are consistent with cystoliths, they measure 1.08 cm in length and 0.56 cm in diameter. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of polyps or a mass.

Kidneys

The **left** kidney measures 3.36 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. An accumulation of intrapelvic fat is noted. Blood flow is within normal limits. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 3.62 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. An accumulation of intrapelvic fat is noted. Blood flow is within normal limits. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland does not show any abnormalities with its architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

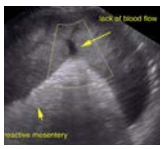
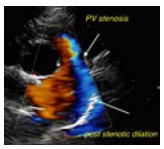
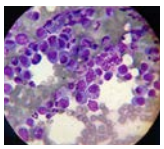
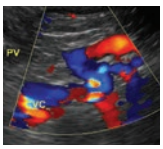
The **right** adrenal gland measures 0.39 cm at the cranial pole, 0.35 cm at the caudal pole and 0.81 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size 8.8 mm (normal = 10 mm), echotexture, and echogenicity. The capsule is smooth. A few hyperechoic pinpoint foci are noted throughout the parenchyma, which are attributed to mineralizations. The latter are not considered 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 mildly, but diffusely granular and coarse. It is within normal limits in echogenicity. A hyperechoic nodule (0.60 cm in diameter x 0.66 cm in length) is visualized. It is dorsal to the gallbladder (GB), and does not appear to be arising from wall of the GB. Nodular regeneration, fibrosis and fat are differential diagnoses. It is not suggestive of neoplasia. It measures 0.65 cm in diameter x 0.58 cm in length in a different view. The walls of the portal veins are hyperechoic, which may be due to inflammation.

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Spayed Female

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The gallbladder wall (GB) is mildly thickened and hyperechoic. A small amount of free floating, gravity dependent and inspissated echogenic material (sludge) is present within the GB. The cystic duct is not dilated, but is mildly to moderately tortuous. The parenchyma surrounding the cystic duct along its trajectory is hyperechoic. The common bile duct does not show any abnormalities. There are no signs of an obstruction.

Gastrointestinal

Gas, a small amount of fluid and ingesta are present in 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.

Duodenum: wall thickness is within normal limits and the definition of the wall layers is preserved. However, the mucosa is mildly prominent and fogging is present.

Jejunum: A few segments are mildly thickened (0.32 cm). Multiple loops of bowel have a prominent mucosa and submucosa and mucosal fogging.

The colonic wall is mildly thickened, however, mural detail is conserved. Constipation is suspected based on segmented feces within the colon.

Pancreas

No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present. Subjectively, the pancreas appears decreased in size, or possibly atrophied.

Other

Lymph nodes No abnormalities are observed

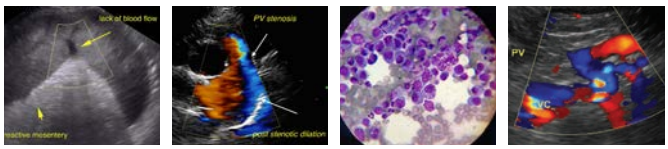
Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Urinary bladder:** Multiple cystoliths are present within the urinary bladder. There are no obvious signs of an obstruction. Overt signs of a urinary tract infection are not appreciated, but cannot be excluded without further diagnostics.

- **Gastrointestinal (GI) tract:** Possible history of constipation and tenesmus (mildly thickened colon) with segmented feces. Signs of mild, yet diffuse gastrointestinal inflammation are observed. Differential diagnoses include a chronic enteropathy (CE), e.g., inflammatory bowel disease, food intolerance, etc. Although the definition of the wall layers is preserved, one cannot always differentiate neoplasia (lymphoma or other round cell tumour), from a CE without performing intestinal biopsies. In conclusion, CE is considered more likely in Sweet Pea's case, but biopsies would have to be performed to obtain a definitive diagnosis (and occasionally immunohistochemistry and PARR).

- **Liver:** A reactive hepatopathy is suspected. The absence of sonographic signs of cholangitis/cholangiohepatitis or cholestasis does not exclude their presence, particularly with the appearance of the gallbladder.



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- **Gallbladder:** High index of suspicion of cholecystitis. A suppurative component cannot be excluded. Obtaining a history regarding signs of gastroesophageal reflux disease (GERD), from the client is suggested.
- **Pancreas:** No abnormalities are observed other than possible atrophy, which is a subjective finding. However exocrine pancreatic insufficiency could explain Sweet Pea's weight loss.
- **Kidneys:** Both are mildly decreased in size which may be a variation of normal as no other abnormalities are observed.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Urinalysis and urine culture (cystoliths)

*__TLI__, (+/- cobalamin and folate), to exclude exocrine pancreatic insufficiency. The cobalamin and folate would help exclude malabsorption and dysbiosis.

Depending on how proactive the clients would like to be, one can either start with fine needle aspirates of the liver and culture of both the liver and bile (pending coagulation profile), or treat empirically and assess response. For example,

Analgesia for visceral pain, such as buprenorphine (0.005-0.01 mg/kg sublingually every 8-12 hours) for a minimum of 7-10 days. Continue for 3-4 weeks if an improvement is noted; the dose and frequency may be weaned to the minimum effective dose during that time.

+/- gabapentin

Supportive care (SQ fluids, etc.)

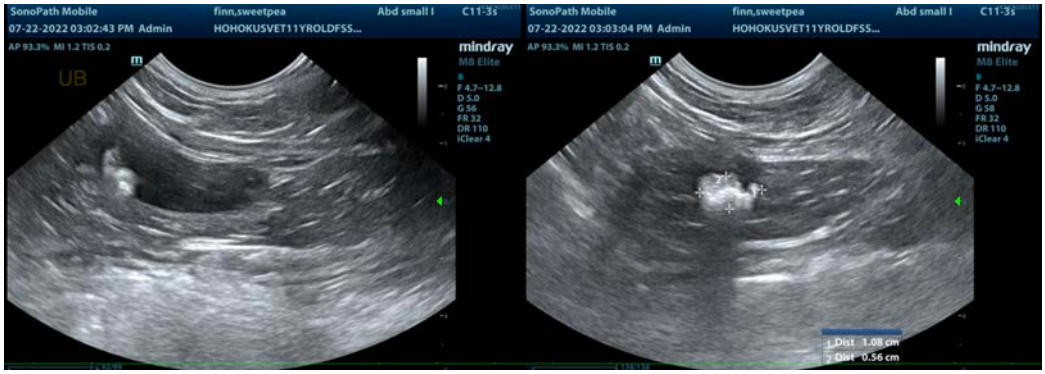
If signs of GERD present, 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO q12h)

Cholangitis/cholangiohepatitis and cholecystitis cannot be excluded, including a secondary ascending bacterial infection. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic if an improvement is not observed with the above therapies.

Deworm depending on risk of exposure, including other pets in house that go outdoors, once eating with more enthusiasm.

+/- Diet trial (veterinary prescription brand hypoallergenic or, ideally, a hydrolyzed protein diet).

If still no improvement or further weight loss occurring, consider fine needle aspirates of liver (see above), and possibly endoscopy with biopsies of the upper and lower GI tract.



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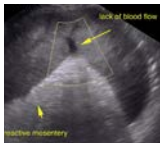
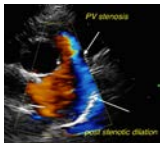
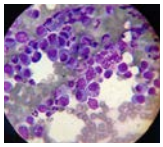
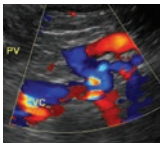

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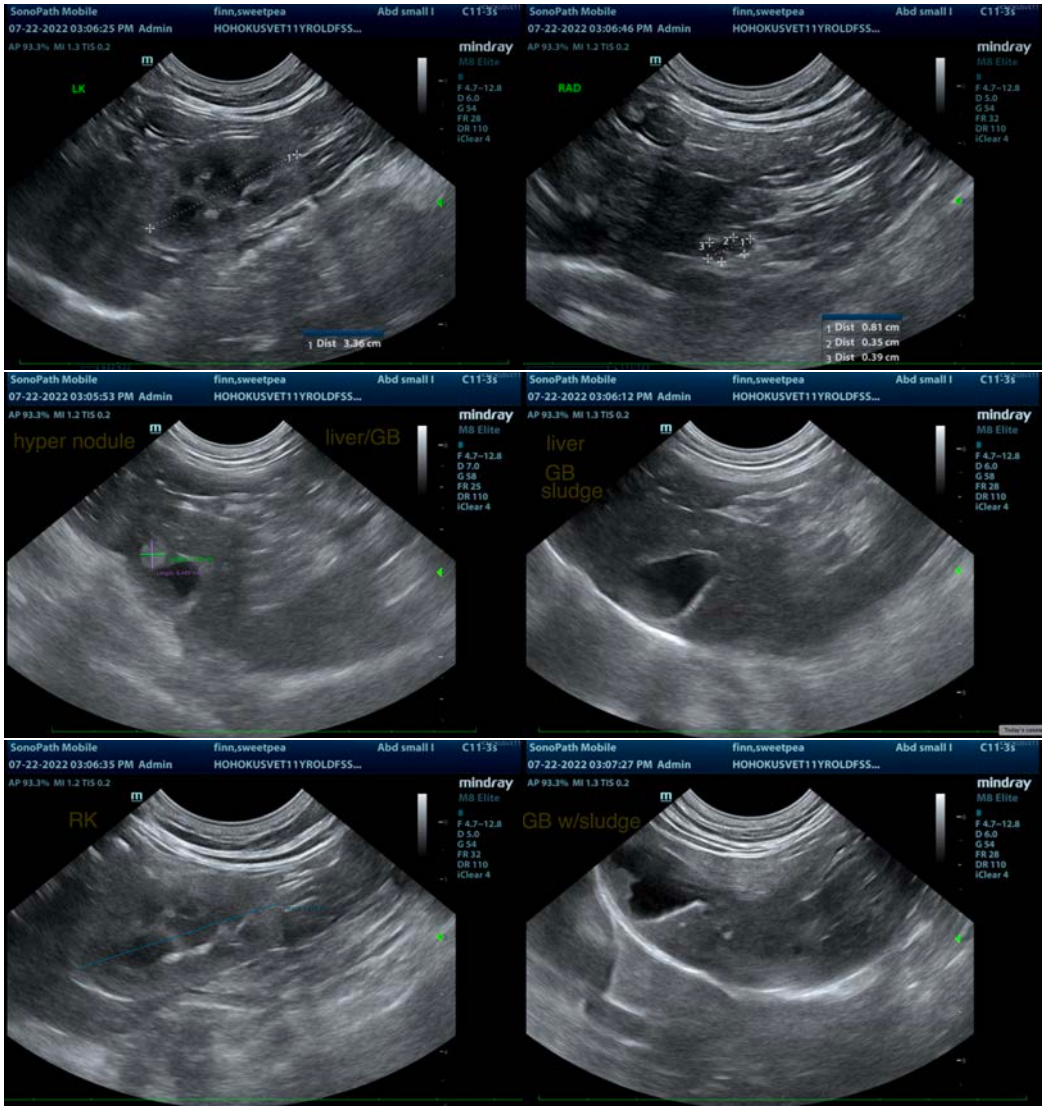

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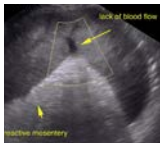
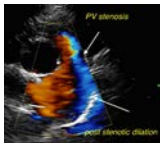
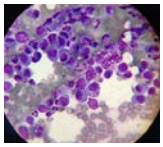
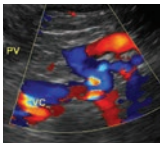

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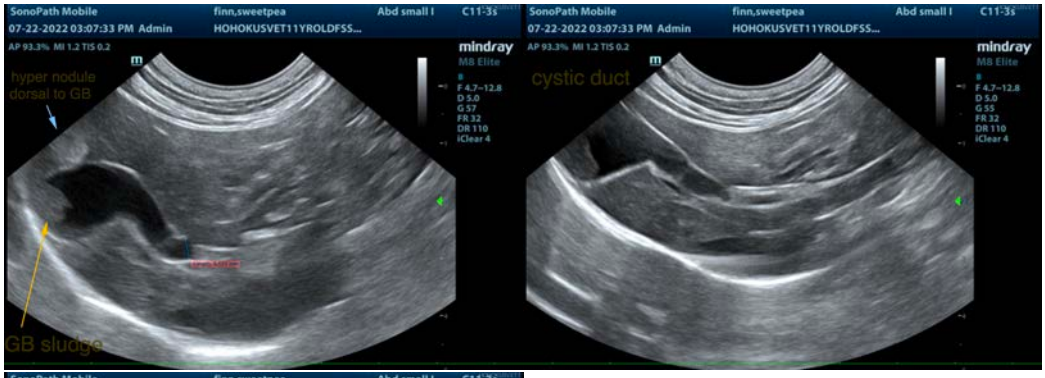

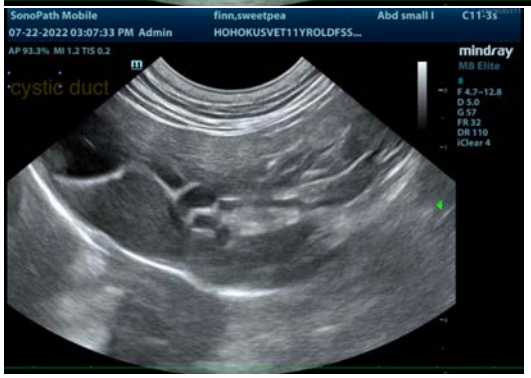

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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