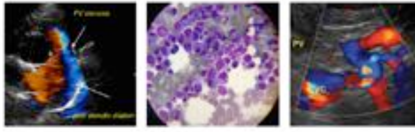

PATIENT

Shay Tringali

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed Female

AGE

4 ½ years

WEIGHT

7.8 lbs

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

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Family Pet Practice

INVOICE

1156

DATE

6/8/22

PRESENTING CLINICAL SIGNS

History of liver biopsy Dec 2020 (mild/moderate multifocal lymphoplasmocytic cholangiohepatitis and EMH) and toxoplasmosis. Last ultrasound performed January 2022 and read by Dr. Sennello. Current meds: Ursodiol 50mg 1 cap BID Clindamycin 25mg - 1 cap BID June 14th: Per owner patient has had a decreased in appetite since owner decreased amount being fed. Owner also noticed patient has BM every 2 days now, originally was having BMs every other day. Otherwise acting normal no other concerns.
Abnormal PE/Chem/CBC/UA Results: Followup for liver (lymphoplasmacytic cholangiohepatitis and EMH) and Toxoplasmosis (positive titers Jan and April 2021) Hx of chronically elevated liver values - improved after steroids, ursodiol, and clindamycin. Is off steroids, but after discussion with Dr. Edwards at B.P., will likely continue with low dose ongoing ursodiol and clindamycin. BAR, normothermic. Not jaundiced. Overall, much less reactive on exam. More active overall- jumping around room, exploring exam room (not hiding in carrier). Coat much improved since off steroids. Acting more like herself at home, not 100% herself yet Recently, P has become more picking with her diet - both canned and dry. P not finishing either. Currently, O is alternating between Hills i/d wet (has to pick out carrots and rice for P) and RC GI mod cal. No vomiting noted. Decreased stool output- likely from decreased food intake. Unsure if change in drinking, but normal urine pile seen in box. 9. abdomen less distended than prev- cranial organomegaly appreciated (suspect liver). Nonpainful! 13. down about 1/2lb in the past 6 weeks. IH liver panel (icteric serum) - today, doing outhouse BW to ANT for full panel 12/7 12/14 12/28 2/4/21 4/8 5/13 7/22 (off meds) 9/23 1/18/22 ALT 300H 336H >1000 >1000 817H >1000 >1000 586H 857H ALT 10x 2877 602 --- 1266 1029 ---- ---- ALP 82- 106H 532H 486 271H 332H 249H 200H 310H Tbili 5.6H 1.0H 1.6H 0.4- <0.1- 0.2- <0.1- <0.1- 1 H **Please see attached recent BW.

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 small to moderate amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 3.55 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

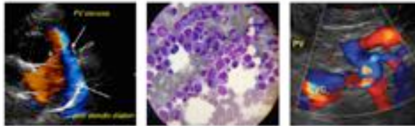
The **right** kidney measures 3.61 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.41 cm. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.



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The **right** adrenal gland measures 0.37 cm. 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 8.0 - 8.6 mm depending on where measured (normal = 10 mm), echotexture, and echogenicity. The capsule is smooth dorsally, with very mild scalloping of the ventral capsule. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

Mild hepatomegaly is suspected. The liver's borders are smooth, but "plump" and mildly rounded. It is diffusely hyperechoic, i.e. it is isoechoic to the falciform fat and hyperechoic to the spleen. The liver is homogeneous, but has a very subtle miliary echotexture. Focal lesions are not visualized. No obvious abnormalities are observed with the hepatic vessels.

The gallbladder (GB) is moderately dilated with a mild amount of free floating and a moderate amount of gravity-dependent echogenic material (sludge). The sludge has accumulated at the neck of the GB and a small amount is present within the cystic duct. The GB wall is within normal limits in thickness and echogenicity. The cystic duct is not dilated, but is moderately tortuous along its entire length as it leads into the common bile duct (CBD). The CBD is not abnormally dilated. There are no signs of a physical obstruction. The parenchyma surrounding the cystic duct is mildly to moderately hyperechoic.

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 duodenum (0.24 cm) is within normal limits in wall thickness and the definition of the wall layers is preserved, however, the submucosa is more prominent than usual. Fluid and gas are present in the lumen.

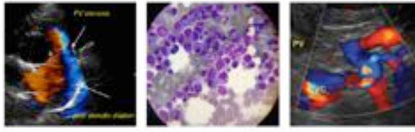
The small intestinal wall thickness (up to 0.24 cm) is also within normal limits. Although the definition of the wall layers is preserved, stippling and fogging of the mucosa are noted. No abnormalities are observed with the ileocecal colic junction. Abnormally dilated loops of bowel are not visualized.

The colonic wall is not thickened (0.16 cm) and mural detail is considered normal. Formed stools are present within the colon.

Pancreas

The **body** is mildly hypoechoic with regular contours. The surrounding mesenteric fat is mildly to moderately hyperechoic. The pancreatico-duodenal duct is mildly dilated at 2.23 mm

The **left limb** is also mildly hypoechoic with regular contours. It has a mildly coarse echotexture, consisting of hypoechoic nodules of variable size and pinpoint to punctate hyperechoic foci scattered throughout the parenchyma. Nodular regeneration or hyperplasia and fibrosis, are suspected. Both may represent previous episodes of pancreatitis, while fibrosis may occur due to mineralization,



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ischemia and amyloid deposition. The surrounding mesentery is mildly hypo to isoechoic to the left limb. Overt signs of neoplasia are not noted.

Other

Lymph nodes

No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Liver**: High index of suspicion of *cholestasis*, *cholangitis/cholangiohepatitis*, as well as *cholecystitis* (see gallbladder). A *suppurative component* cannot be excluded. *Pancreatitis* is also suspected and may be contributing to the changes observed, in addition to *hepatic lipidosis* due to hyporexia. The liver is much more echogenic compared to Shay's exam in January and also appears to be larger.

- **Gallbladder (GB):** *Cholecystitis* is suspected due to the tortuosity of the cystic duct, as well as the elevated serum total bilirubin, icteric serum, bilirubinuria, and bilirubin crystals. A *suppurative cholecystitis* is likely present as ascending bacterial infections from the GI tract are not uncommon. Today's findings are more severe compared to January's exam. Note, Gastroesophageal reflux disease (GERD) may occur in some patients with GB sludge. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor may be required.

- **Pancreas**: Although severe pancreatitis is not evident, signs are most consistent with a *smoldering, low grade, pancreatitis.* Other changes present are suggestive of previous episodes of pancreatitis, i.e. nodular regeneration and fibrosis. There are no signs of neoplasia.

- **Gastrointestinal tract**: Very subtle and somewhat subjective changes are noted, which may be clinically insignificant. However, findings may also indicated inflammation, for example, inflammatory bowel disease. There are no signs of neoplasia.

- Note, *"triaditis"* cannot be excluded based on today's findings.

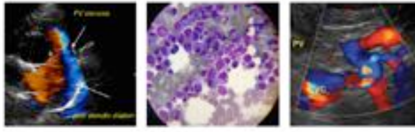
- Spleen: very mild scalloped borders may suggest splenitis due to immune/antigenic stimulation. There are no signs of neoplasia.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The following are suggested/recommended

Ideally, fine needle aspirates of the liver and culture of the liver and bile.

Evaluate eyes for uveitis (signs of active toxoplasmosis). A recurrence of toxoplasmosis is not considered as likely).



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spec fPL, serum cobalamin, and folate

A TLI is also suggested in the future, once Shay is feeling better, if she continues to lose weight, to exclude exocrine pancreatic insufficiency. A false negative result is likely if pancreatitis is present.

Analgesia trial for visceral pain, such as buprenorphine (0.005-0.01 mg/kg sublingually every 8-12 hours) for 7-10 days. Continue for 3-4 weeks and then as needed. Note, the dose and frequency may be weaned to the minimum effective dose. +/- gabapentin

+/- Subcutaneous fluids at home, if not eating and drinking well

Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor may be required.

If signs of gastroesophageal reflux disease (GERD), 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO **q12h**).

vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses) due to high index of suspicion of cholestasis.

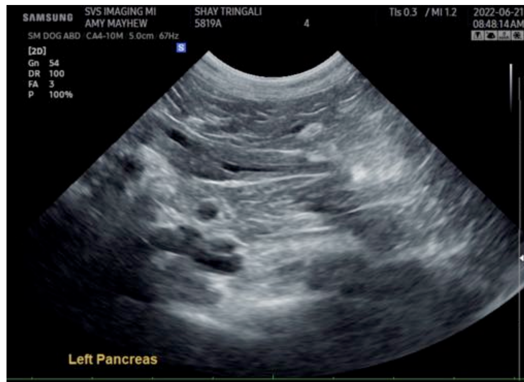
Cholangitis/cholangiohepatitis and cholecystitis, including a secondary ascending bacterial infection, cannot be excluded. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic if an improvement is not observed with the above therapies within 48 hours.

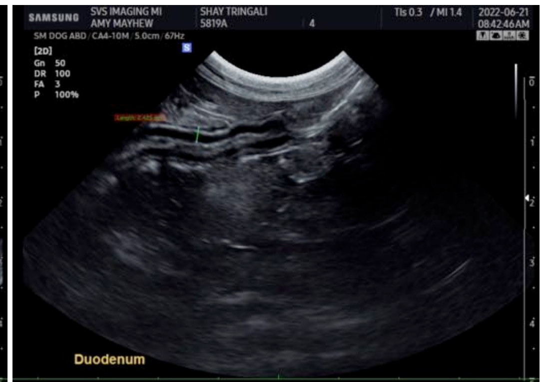
High index of suspicion of nausea due to current disease process, however, Shay is currently receiving Ursodiol at 15 mg/kg PO q12h, which can cause nausea, inappetence and cramps. A decrease in the dose by 50% is suggested, in addition to dividing the dose BID, i.e. 7.5 mg/kg PO q12h.

Small, frequent meals are better tolerated (pancreas and biliary system)

Adding a soluble source of fibre may help Shay's constipation (psyllium), or PEG 3350 in powder form (RestoraLax or Lax-A-Day) may be tried. Subcutaneous fluids may also help if she is subclinically dehydrated.

Eventually, a dietary trial, may be considered depending on Shay's clinical status.





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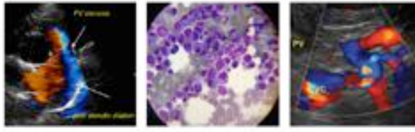

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Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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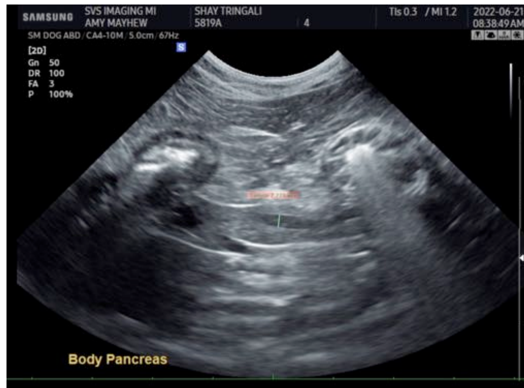

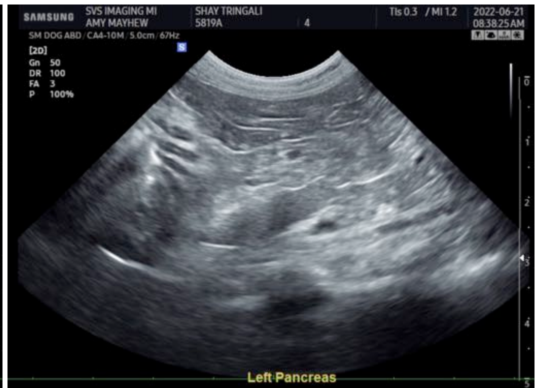

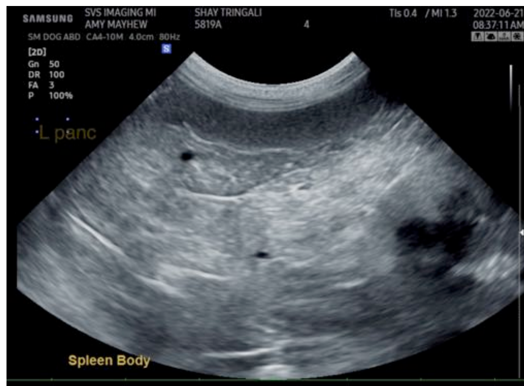

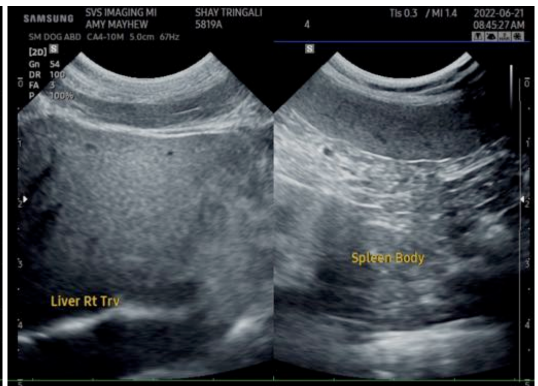

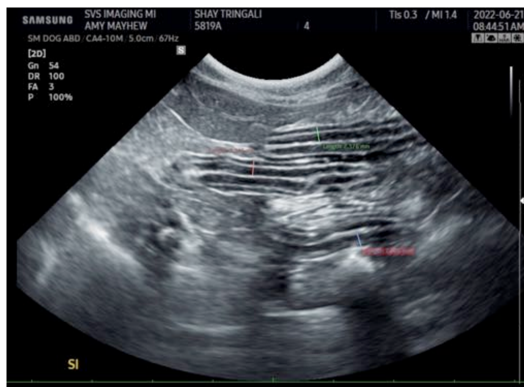

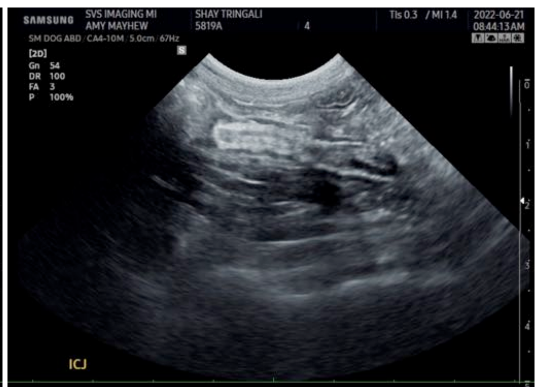

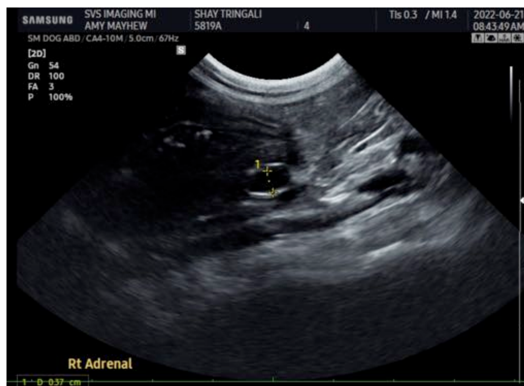

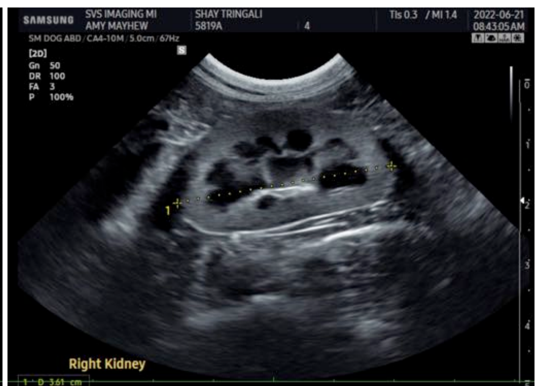

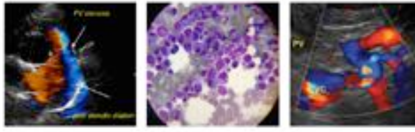

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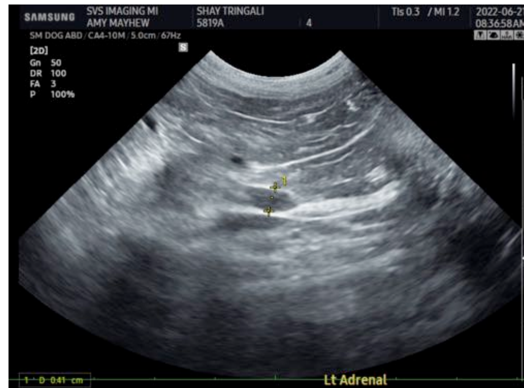

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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