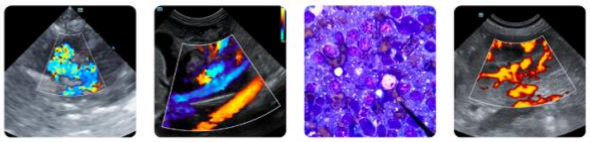

PATIENT

Tootsie Rivera

SPECIES

Canine

BREED

Mixed

SEX

Female Spayed

AGE

12

WEIGHT

15.8 lnd

INTERPRETED BY

Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Gabriel Ferrer DVM

HOSPITAL NAME

Pulse Pet Ultrasound Services

REFERRING VET

Dra. Alma Alicea

INVOICE

22314

DATE

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PRESENTING CLINICAL SIGNS

History: Presented for an abdominal ultrasound to evaluate severely elevated liver enzymes and bilirubin. Presented to regular vet 3 days with acute onset of anorexia and lethargy. Pt was started at regular vet on penicillin, Cerenia, famotidine, Vit B 12, and sq fluids and referred to EC for hospitalization. At EC Cerenia 1mg/kg iv sid, famotidine 1mg/kg iv sid and Unasyn 22mg/kg iv Tid, metronidazole 7.5mg/kg iv BID and 2x maint. IV fluids, Denamarin orally sid. Previous HX of MCT (cutaneous).

Abnormal PE/Chem/CBC/UA Results: PE: Pt is very icterus
Radiogaphs: attached as supporting documents. Bloodwork: Attached as supporting documents CBC - wnl. Chem 17 - ALT off charts even after dilution. ALKP >2000, GGT 75, T. bili 12.5. Lepto snap - weak positive - dog was recently vaccinated. UA in house - SG 1.012, pH 9.0, bilirubin 6, rest unremarkable.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone is normal.

The left kidney is normal in size (4.46 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The right kidney is normal in size (4.49 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. A few, small, nonobstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

Adrenal Glands

The left adrenal gland is normal in size (0.48 cm at cranial pole) (0.47 cm at caudal pole) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is upper limits of normal size (0.62 cm at cranial pole) (0.52 cm at caudal pole) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

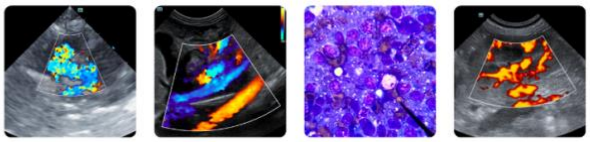
Spleen

The spleen is normal in size (1.07 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

Liver

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative, or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion.

The gallbladder is distended. The wall is normal in thickness. A moderate amount of suspended echogenic debris is observed within the lumen. The mesentery effacing the serosal surface of the gallbladder wall is hyperechoic. The cystic and common bile ducts are dilated (up to 0.59 cm). Echogenic material is observed



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within the lumen. Adjacent to +/- arising from the distal common bile duct, a 0.36 x 0.18 cm ill-defined, mineralized area is visualized. The distal common bile duct measures 0.28 cm in diameter. The duodenal papilla is normal-in-size (0.28 cm in width).

Gastrointestinal

The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall is normal in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The ileocecocolic junction and colonic wall are normal. There is no evidence of an obstructive pattern.

Pancreas

The right limb is visible/prominent with minimal deviation from the normal peripheral contours. The parenchyma is mildly hypoechoic relative to surrounding omental fat. The pancreatic duct is not overtly dilated. Surrounding mesentery is mildly hyperechoic.

Lymph Nodes

The abdominal lymph nodes are normal/not visible.

Free Abdomen

There is no obvious evidence of free fluid.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Gallbladder/cystic/common bile duct distention. The echogenic debris within the cystic and common bile ducts may represent debris, mucus, or less likely, a mass. The mineralized area adjacent to the distal common bile duct wall may represent a mineralized mass, choledocholith (less likely, as it does not appear to be present within the lumen), other. It is unclear whether this lesion is resulting in a partial obstruction of the common bile duct. There is mild peritonitis adjacent to the gallbladder and duodenal papilla.
- The pancreatic changes in the right limb are suggestive of mild pancreatitis.

Secondary Findings

- Bilateral nonspecific age-related renal changes with right nonobstructive nephrolithiasis
- Borderline left adrenomegaly

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the sonographic gallbladder bile duct changes, as well as the severity of the hyperbilirubinemia, an abdominal exploratory with assessment of bile duct patency, +/- bile duct rerouting (if indicated) should be strongly considered. Liver biopsies with aerobic and anaerobic bile cultures +/- hepatic copper quantitation should also be obtained. Consider referral to a board-certified surgeon, due to the potential for surgical complications. Three-view thoracic radiographs and clotting times are recommended prior to anesthesia. If surgery is not pursued at this time, aggressive supportive care for cholangiohepatitis/cholecystitis/ cholangitis/pancreatitis is recommended (including broad-spectrum antibiotics, pain medication, fluid therapy, and other

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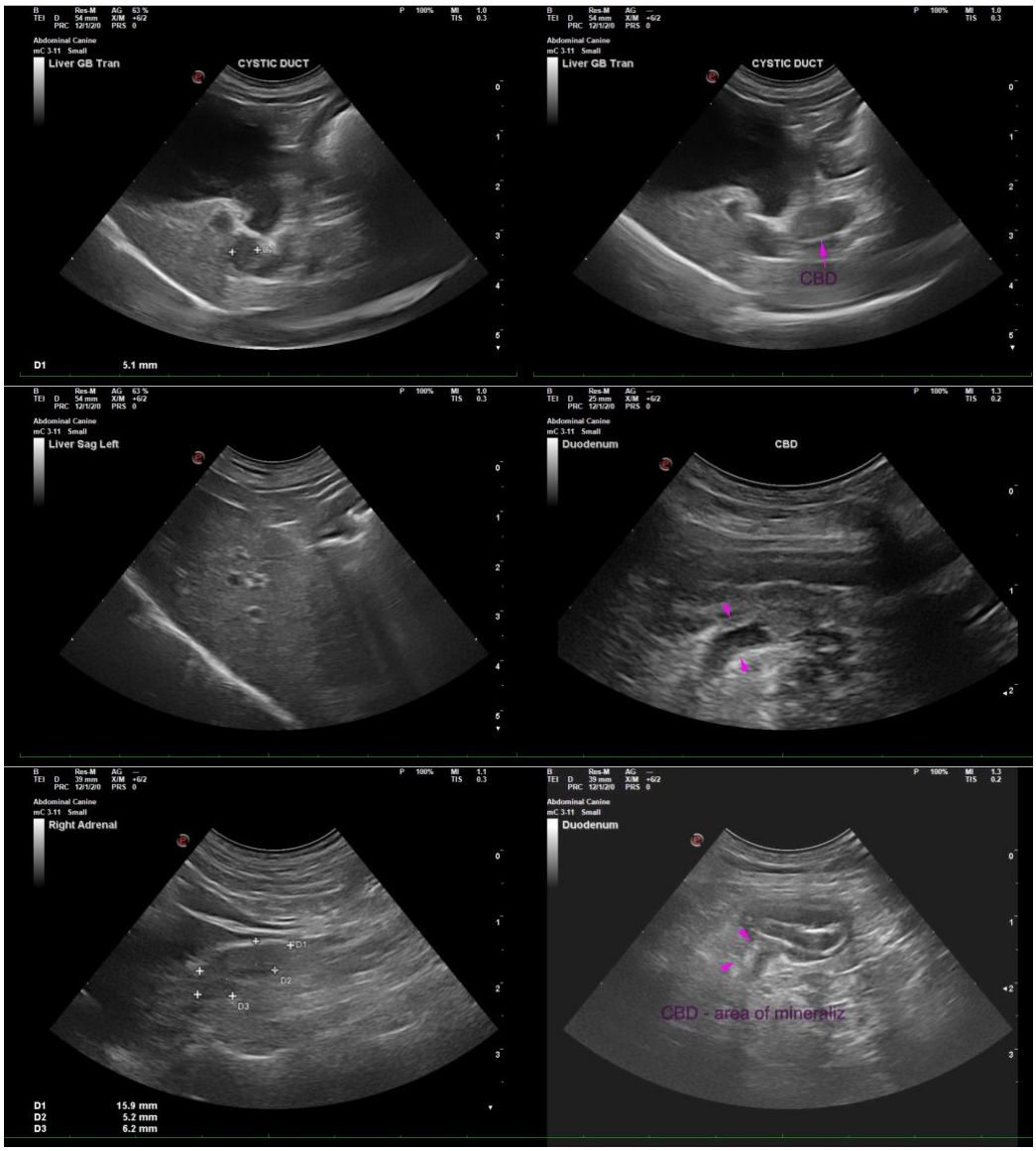
symptomatic measures) with close monitoring of the patient's total bilirubin. If the bilirubin does not begin to improve within 24-48 hours, surgery should be reconsidered.



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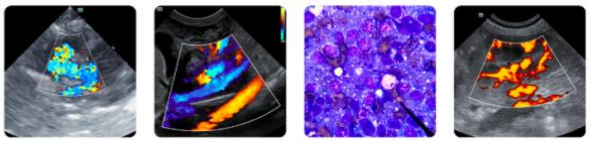

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

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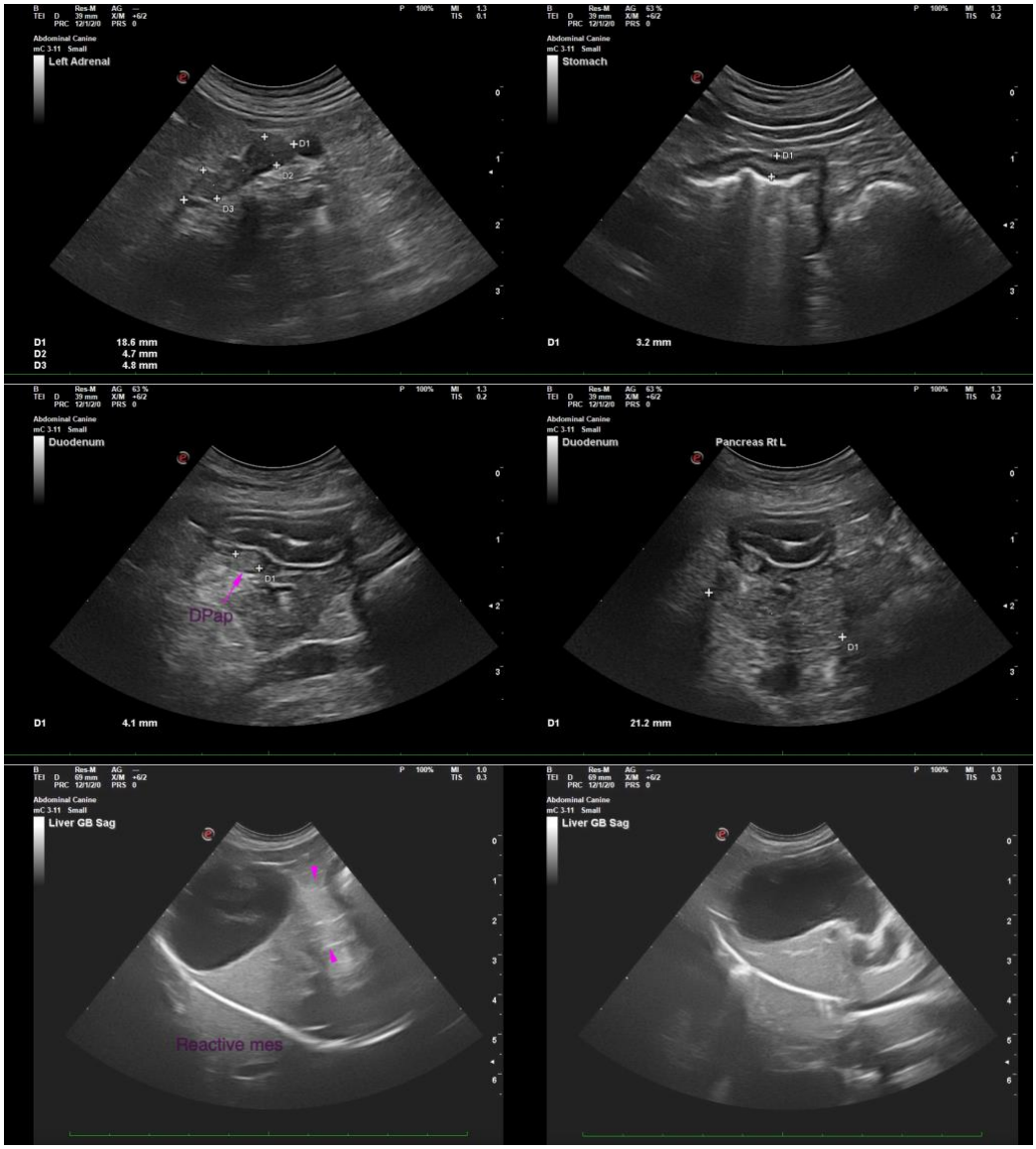

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
info@SonoPath.com