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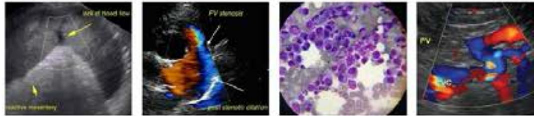


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Eddie Dahlgren

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

15 Years

WEIGHT

6.7 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Brighton Greens VH

REFERRING VET

Dr. Robin Janeway

INVOICE

38723

DATE

6/15/22

PRESENTING CLINICAL SIGNS

gave 0.1ml butorphanol IV half way thru AUS- Age: 15yr Weight in #: 6.7 Breed: DSH History: Weight loss despite good appetite over the past 3-4 months. Patient originally seen at another clinic and presumptively diagnosed with cholangiohepatitis in 03/22 based upon lab work. O began giving Denosyl orally once daily. Patient has been on 5 mg Prednisolone daily for years for treatment of presumptive allergic dermatitis and osteoarthritis. Patient currently on Denamarin (switched from Denosyl), Metronidazole, Cosequin, and O tapering Prednisolone to 5 mg EOD Physical exam findings: BCS 3/9; mild hepatomegaly palpated; stage I dental disease; poorly groomed haircoat Abnormal CBC/Chem/UA values performed 06/06/22: elevated liver values (AST @ 278 IU/L, ALT @ 698 IU/L, ALP @ 129 IU/L, Tbili elevated @ 2.4 mg/dL), BUN elevated @ 55 mg/dL, Creatinine elevated @ 3.8 mg/dL, hypercholesterolemia @ 356 mEq/L, elevated Precision PSL @ 42 U/L; leukocytosis @ 29,200/uL, moderate neutrophilia @ 24,236/uL, monocytosis @ 876/uL, eosinophilia @ 2336/uL, T4 WNL @ 2.3 ug/dL, urine SpGr 1.018, 1+ proteinuria, 1+ bilirubinuria noted; urine C&S demonstrated no growth Previous abnormal findings on lab work performed 03/22: elevated liver values and Tbili (AST @ 177, ALT @ 539, Tbili @ 0.7, elevated Cholesterol @ 246, elevated precision PSL @ 42, renal tech positive)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney is hyperechoic with corticomedullary rim sign. It is normal in size at 4.15 cm. and has adequate corticomedullary distinction. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is hyperechoic with corticomedullary rim sign. It is normal in size at 3.91 cm with adequate corticomedullary distinction. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

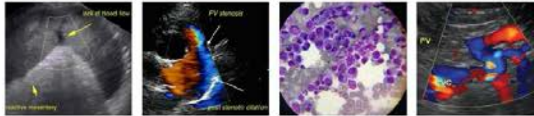
Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

Spleen

The spleen is subjectively normal in size (0.77 cm in width at the level of the hilus), echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.



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Liver

The liver is large in size, and hypoechoic with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. There is severe extrahepatic bile duct dilation visualized as well as some intrahepatic biliary dilation. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts appear severely dilated and tortuous with some mucoid type debris within them. Proximally, the duct is visualized and measures approximately 0.28 cm. It appears to get progressively large to approximately 0.65 cm mid duct, and then distally near the duodenal papilla, it is measured at 0.95 cm. The duodenal papillae is visualized and there is no overt mass effect seen.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measured 0.22 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

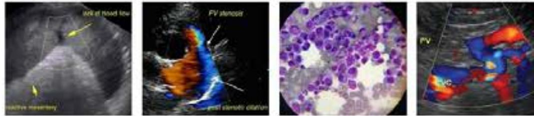
The pancreas is prominent, hypoechoic and mottled, with a very prominent pancreatic duct measuring approximately 0.34 cm. It is hypoechoic to surrounding the mesentery. In the left limb, in the region of the spleen, it is irregular enough to create somewhat of a mass effect. Surrounding mesentery appeared hyperechoic, but there is no evidence of free fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is no mesenteric lymphadenopathy. The omentum is of increased echogenicity in the cranial abdomen around the abnormal bile duct and pancreas.

ULTRASONOGRAPHIC FINDINGS

- Prominent, large, hypoechoic and mottled pancreas with dilated pancreatic duct – There is surrounding inflammation, and the pancreas appears enlarged and irregular. These findings could be consistent with chronic severe pancreatic disease, pancreatic neoplasia, or moderate pancreatitis. Recommend fine needle aspirate.



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- Hypoechoic and heterogeneous liver – Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Severely tortuous and dilated common bile duct – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other).
- Hyperechoic kidneys with prominent corticomedullary rim sign – Clinical significance uncertain, can be seen in normal patients and in cases of ethylene glycol toxicity, FIP, chronic interstitial nephritis, and leptospirosis.
- Prominent muscularis to the small intestine – The small intestinal wall changes are most consistent with an inflammatory process (i.e., inflammatory bowel disease) with a low possibility of emerging lymphoma.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is large and heterogeneous. The gallbladder has some moderate debris within it, and the bile duct is severely dilated and tortuous with debris. An obvious focal obstruction is not visualized, and it appears dilated up to the level of the duodenal papillae. Additionally, the pancreatic duct is severely dilated, and the pancreas itself is hypoechoic and mottled. These findings could be consistent with neoplastic disease, Triaditis, cholangiohepatitis, etc. The changes observed are relatively severe.

Recommend a fine needle aspirate of the pancreas and liver to look for evidence of round cell neoplasia. Additionally, if possible, sampling of the gallbladder to obtain bile for culture could be helpful in deciding if and what antibiotic therapy is recommended. Recommend starting Ursodiol, antibiotics, and continuing an anti-inflammatory dose of steroids. It is difficult to say if the bile duct is completely obstructed at this time, but I suspect it has been progressively, either mechanically or functionally, chronically partially obstructed.

Additionally, consider symptomatic treatment for pancreatitis and IBD. If the bilirubin continues to rise, then a complete obstruction may be present, and surgical evaluation may be necessary. A contrast CT scan could be considered prior to surgery to evaluate surgical options before sugery.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

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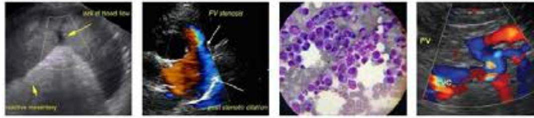

PAWS
Portable Animal Western Sonography, Inc.
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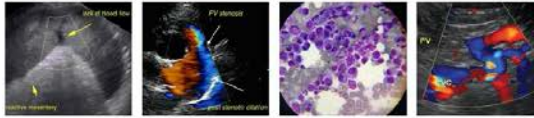

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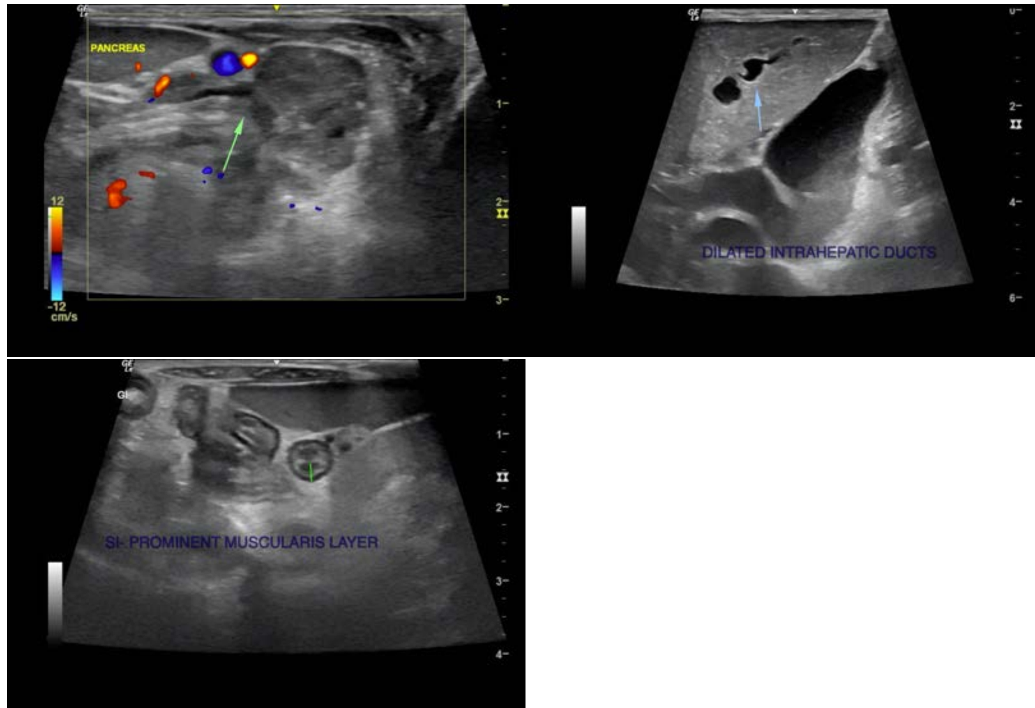

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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