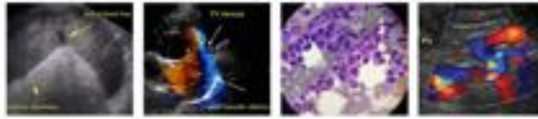


PATIENT

Cody Adona

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

14y

WEIGHT

3.9kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Brighton Greens Veterinary Hospital

REFERRING VET

Dr. Robin Janeway

INVOICE

10185

DATE

4/19/2023

PRESENTING CLINICAL SIGNS

History * Not eating for 2 days Working diagnosis mild cardiomegaly, moderate hepatomegaly, mottled appearance to pancreas neoplasia vs chronic pancreatitis vs cyst/abscess, Hepatic Lipidosis, Cholangiohepatitis.

Abnormal PE/Chem/CBC/UA Results: ALT 371, Amyl 1553, tbili 1.7, Hct 28.18%

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with echogenic 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 has a normal size measuring 4.4 cm. Overall echogenicity is increased with adequate corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts, or hydroureter. Renal vasculature is normal.

The right kidney has a normal size measuring 4.59 cm. Overall echogenicity is increased with adequate corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts, or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.43 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.41 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

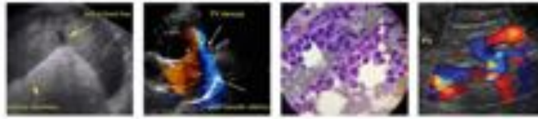
Spleen

The spleen is subjectively normal in size, 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.

Liver

The liver is large in size, and normal in echogenicity with rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The primary gallbladder is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Distal to the primary gallbladder there is a second dilation/lumen, most consistent with a second gallbladder. This area as well has a normal wall with no significant thickening



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or surrounding inflammation. The cystic and common bile ducts appear somewhat prominent and tortuous measuring 0.32 cm. The duodenal papilla is visualized, and no evidence of obstruction is 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 relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis: mucosa layer ratio. The duodenum measured as normal (0.27 cm), and the jejunum measured as normal (0.25 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

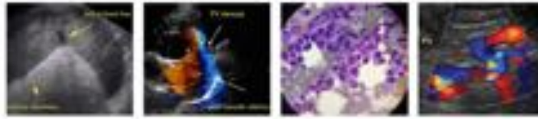
The pancreas is large and hypoechoic to surrounding mesentery. In some areas, the pancreas is significantly mottled, potentially consistent with small nodules. There is evidence of regional mesenteric inflammation. Consistent with moderate pancreatitis.

Free Abdomen

Evaluation of the peritoneal cavity did reveal scant free abdominal fluid. There are prominent slightly irregular mesenteric lymph nodes visualized measuring 0.65 cm, 0.45 cm, and 0.43 cm. The omentum is hyperechoic in the cranial abdomen.

PRIMARY FINDINGS

- Echogenic debris in the urinary bladder. The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus. Recommend urinalysis and culture.
- Hyperechoic kidneys. Findings are most consistent with early interstitial nephritis.
- Prominent hypoechoic left and right limbs of the pancreas with surrounding mildly hyperechoic mesentery and indistinctly nodular texture. The pancreatic changes are most consistent with moderate pancreatitis/pancreatic infiltration. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.
- Large heterogenous liver. Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis, or other hepatopathy.
- Suspect duplicate gallbladders with mild bile duct dilation. 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 (i.e., choledocholith, bile duct tumor, pancreatic disease, other).



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- Mild mesenteric lymphadenopathy. The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

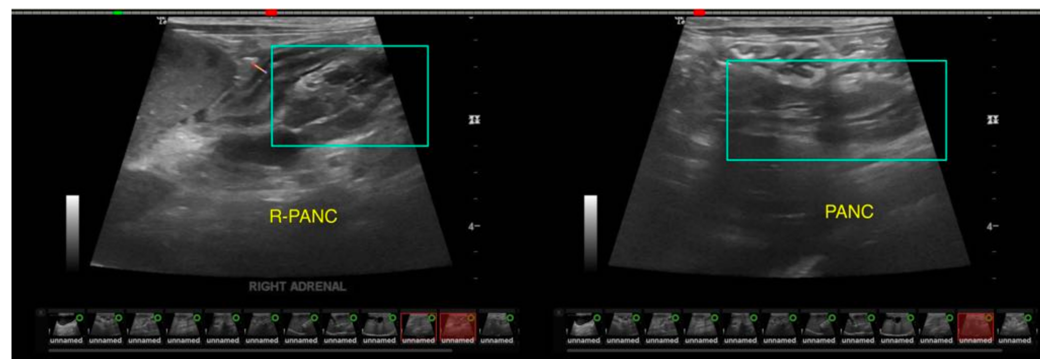
The liver is large and heterogeneous in this individual consistent with a primary hepatopathy. Additionally, there are what I suspect are duplicate gallbladders with mild bile duct dilation. I suspect the elevation of bilirubin is primarily due to the primary hepatopathy present. Recommend a fine needle aspirate of the liver (provided coagulation parameters are normal).

Additionally, the pancreas is very prominent, almost nodular in appearance in some regions, most consistent with active pancreatitis likely superimposed on chronic remodeling. Although, underlying neoplastic change cannot be ruled out. Recommend empirical treatment for pancreatitis and a GI panel to Texas A&M for a qualitative fPLI/TLI/Cobalamin/Folate to evaluate for concurrent small intestinal disease.

It is possible that the changes associated with the liver, gallbladder, bile duct, and pancreas could be consistent with triaditis/cholangiohepatitis-type of process. Although, the liver is much more swollen and large than expected. Initial empirical therapy with ursodiol antibiotics, probiotics, (dosed at least an hour apart from the antibiotics) Denamarincould be considered, along with the treatment for pancreatitis.

The lymph nodes visualized appear somewhat irregular, which is concerning but I suspect they may be too small to easily sample. If a good window for sampling a mesenteric lymph node is visualized, consider obtaining a sample.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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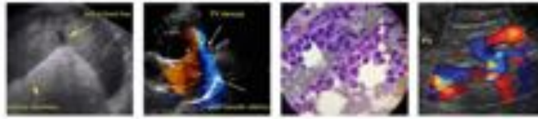

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pawsonography@gmail.com 530-786-8340

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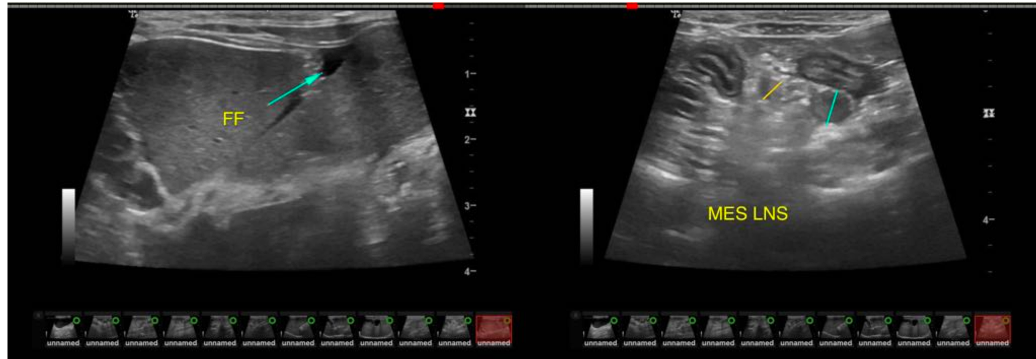

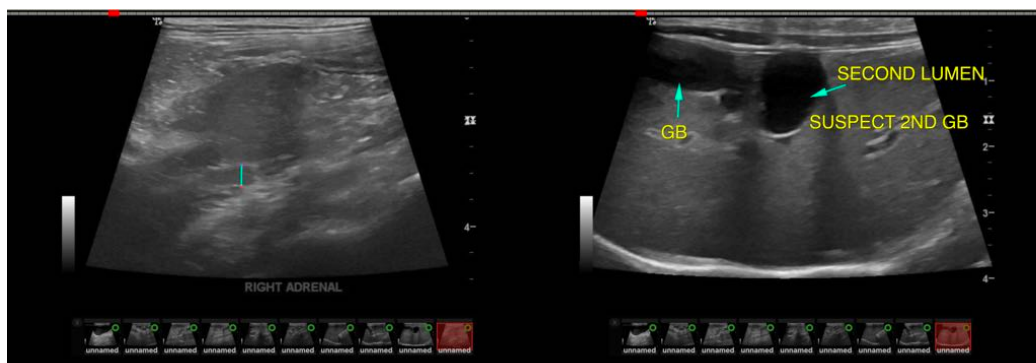

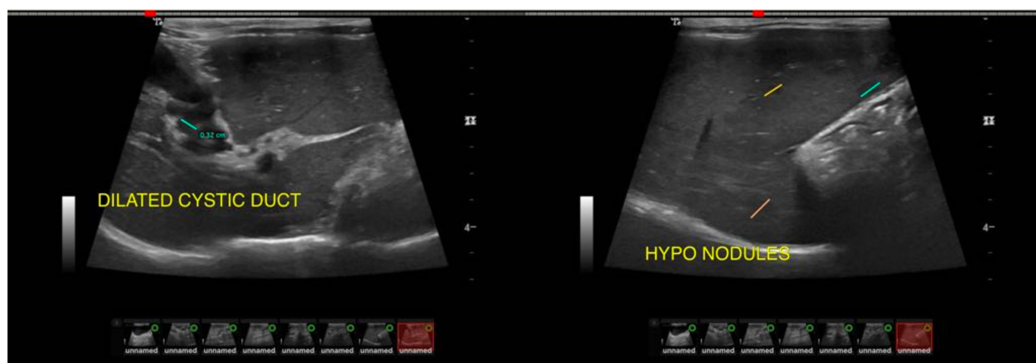

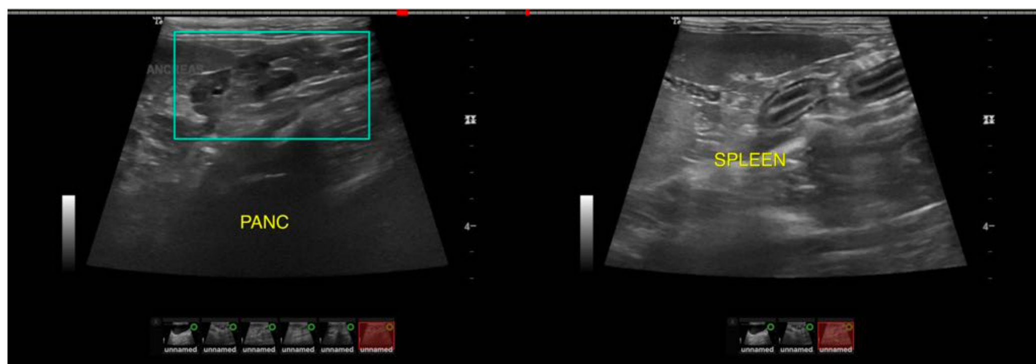

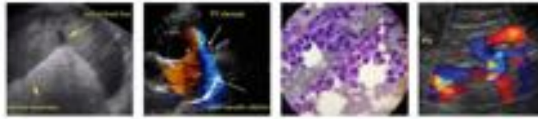

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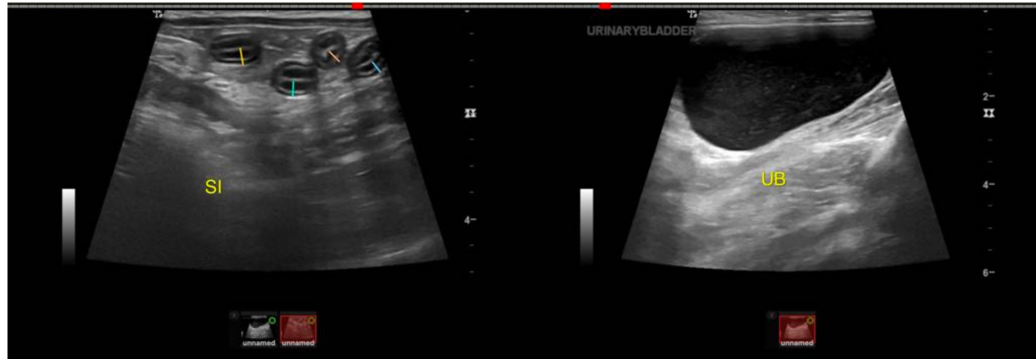

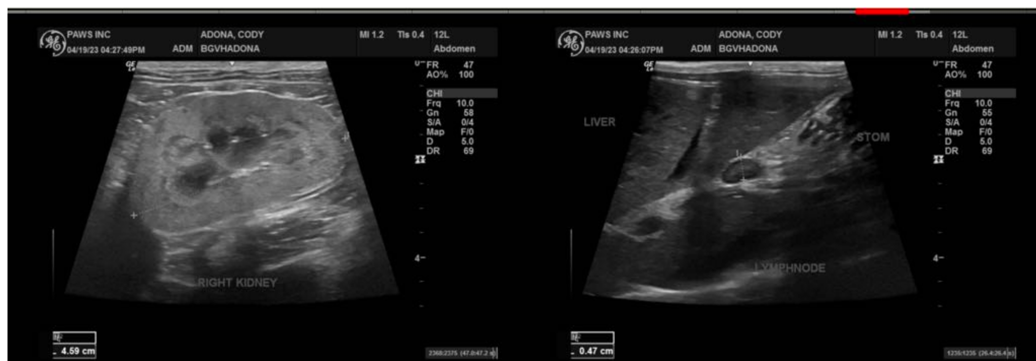

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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kathleen.sennello@sonopath.com