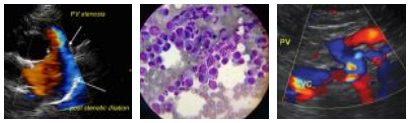
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE
9/9/22

PATIENT
Keith Shonborn

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
4/4/11

WEIGHT
15.5 Pounds

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

HOSPITAL NAME
Timonium AH

REFERRING VET
Dr. Stephens

INVOICE
17218

PRESENTING CLINICAL SIGNS

History: He has IBD and likely low grade asthma. Prednisolone 2.5mg twice weekly thus far controls both diseases. He presented for vomiting and lethargy. His bloodwork was suggestive of pancreatitis and liver inflammation. In-house ultrasound is concerning for stones in the bile duct.

Current Medications: None listed.
Lab Results: On 9/2/22: ALT 1985, Tbili 1.8.
Date of Previous IntraPet Ultrasound: 1/7/22. See attached.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Andi Parkinson, BS, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.28 cm), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2.0 cm) appear normal with no evidence of severe mucosal irregularities, masses or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture

The left kidney has an irregular shape (likely due to previous infarcts). The left kidney measures 4.88 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is mild pyelectasia (0.2 cm). There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal. There is mildly hyperechoic tissue surrounding the left kidney.

The right kidney has an irregular shape (likely due to previous infarcts). The right kidney measures 4.74 cm. Overall echogenicity is slightly hyperechoic with poor 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 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/borderline large in size (1.1 cm), 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 subjectively (normal, large, small, normal/large, normal/small) in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. There are multiple hyperechoic foci visualized within the hepatic parenchyma, most consistent

with stones within the intrahepatic bile ducts. Additionally, there is mineralization in the gallbladder and bile duct. No focal nodules or cystic lesions are observed

The gallbladder lumen is moderately distended. There is a moderate amount of dependent hyperechoic shadowing sandy debris in the dependent portion of the gallbladder. This appears to be extending into the bile duct. The bile duct appears thickened and thick walled with sandy mineralization/stones and bile duct thickness at approximately 0.5 cm.

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 (between 0.13-0.38cm in wall thickness) 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. There are numerous hypoechoic nodule/small cysts visualized in the pancreatic parenchyma, measuring 0.2 cm, 0.6 cm, etc. Findings are consistent with a nodular irregular pancreas. There is evidence of regional mesenteric inflammation. Consistent with mild pancreatitis.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly (list if measurements given). The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Thickened urinary bladder wall. The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.

- Decreased corticomedullary distinction in both kidneys with mild left sided pyelectasia. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

- Borderline large spleen. The splenic parenchyma appears normal, but the spleen measures as mildly enlarged. IF round cell neoplasia is on your differential list, consider a fine needle aspirate.

- Prominent hypoechoic pancreas with hypoechoic nodular lesions and surrounding mild inflammation. The pancreatic changes are most consistent with mild 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. The nodules likely represent lymphoid hyperplasia. A fine needle aspirate of the pancreas could be considered.

- Heterogeneous liver with intrahepatic biliary stones. Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.

- Sandy debris visualized in the gallbladder and bile duct with dilated thickened bile duct. Findings are most consistent with cholecystitis and possibly a partial biliary obstruction.

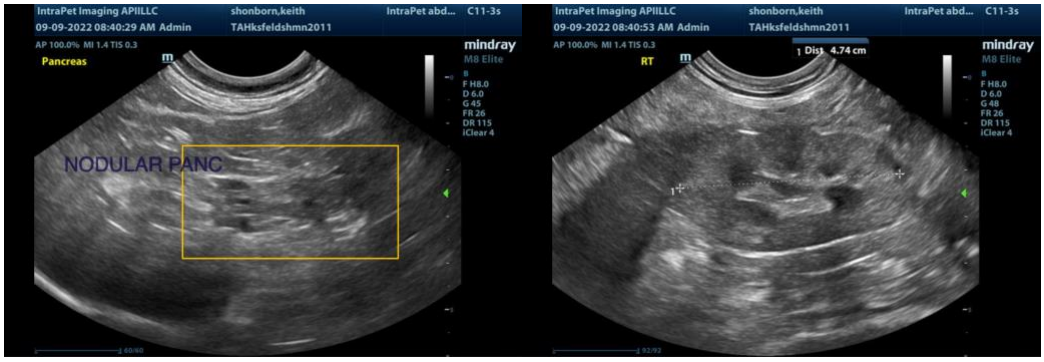
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

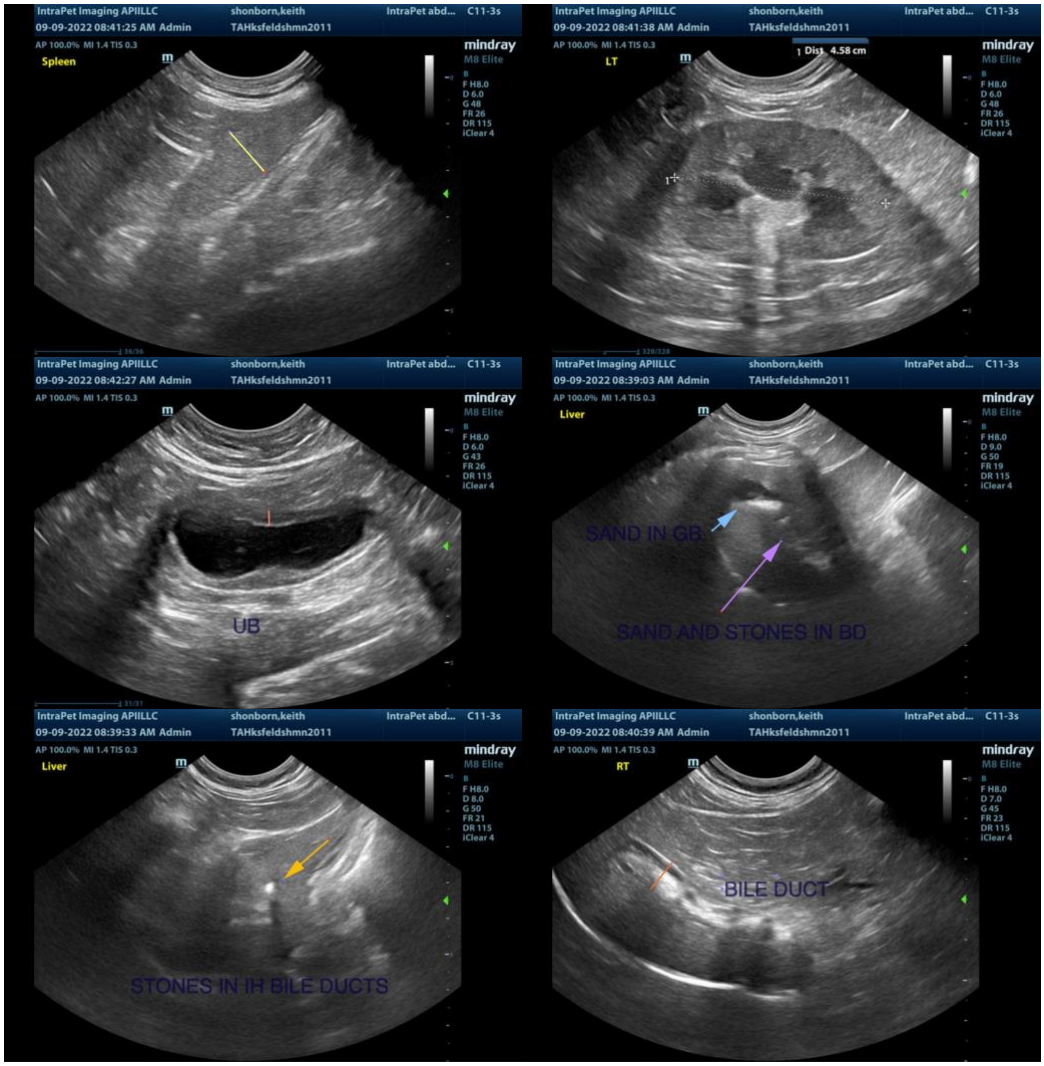
The mineralization visualized in the gallbladder with stones extending into the bile duct are concerning for a possible partial obstruction. Additionally, the biliary wall appears somewhat thickened. This could be consistent with inflammation and cholecystitis. Consider treatment for cholangiohepatitis/cholecystitis with antibiotics, ursodiol and close monitoring of the gallbladder for progressive distention. A fine needle aspirate of the liver should be considered (provided coagulation parameters are normal) to rule out the possibility of concurrent round cell neoplasia.

The changes in the pancreas are likely chronic. There may be some current inflammation and underlying neoplastic change cannot be completely ruled out. The involvement of the pancreas could support a clinical diagnosis of triaditis. Consider symptomatic treatment for pancreatitis and consider a novel protein/hydrolyzed protein prescription diet, as well as chronic probiotic therapy for possible concurrent GI disease.

The changes observed in the kidneys are. Most consistent with chronic progressive renal disease. I recommend a urinalysis, blood pressure and culture to establish a baseline.

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





The information and recommendations provided are based on the images presented by the referring veterinarian. 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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com