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Clinical Sonography & Telecytology
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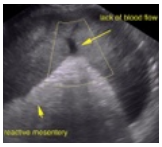
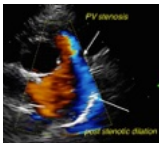
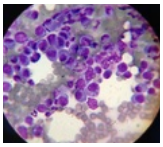
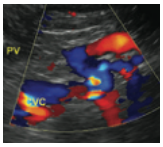

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1-800-838-4268 info@sonopath.com

PATIENT
Nicco Lai

SPECIES
Canine

BREED
Terrier Mix

SEX
Neutered Male

AGE
14.5 y.o

WEIGHT
19.3 lb

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

IMAGING PERFORMED BY
Emily Kirk

HOSPITAL NAME
Shiloh AH

REFERRING VET
Lauren Eyrich

INVOICE
10410

DATE
8/10/2023

PRESENTING CLINICAL SIGNS

P has a history of heart murmur (grade 3/6), hypertension (currently well-controlled with Amlodipine), and kidney disease (early stage 2). Last lab work panel in May showed increasing trends of increasing liver values (ALT 122, ALP 242, GGT 14) but has otherwise been doing well at home. Recommended abdominal ultrasound for evaluation of trending increase in liver values, as well as evaluation of kidneys from underlying kidney disease.

Abnormal PE/Chem/CBC/UA Results: see attached. UA unremarkable, usg 1.014
Total # of Files Uploaded: 41

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 prostate is normal in size (1.1 cm) and shape for this neutered male dog. The parenchyma is homogenous, and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.42 cm) with mild pyelectasia at 0.26 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.26 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

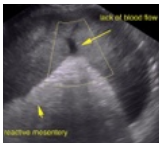
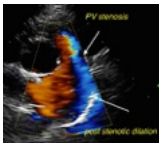
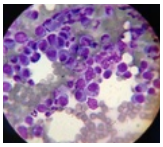
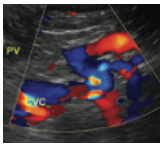
The left adrenal gland is normal in size measuring 0.73 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The 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, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a somewhat ill-defined hypoechoic nodule visualized within the parenchyma measuring 0.71 cm in diameter.

Liver

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The liver is large in size, and normal in echogenicity with slightly rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous ill-defined hyper and hypoechoic nodules within the parenchyma. Additionally, there is a slightly hyperechoic area which appears to bulge slightly from the hepatic margins measuring 3.5 cm creating a mass effect. This could represent a true mass effect or an irregular hepatic contour.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.

Gastrointestinal

The stomach contains mild shadowing ingesta. It measures at a normal thickness of <0.7cm 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 (0.43 cm), and the jejunum measured as normal (0.36 cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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 area of the pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

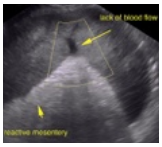
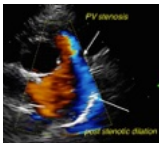
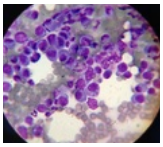
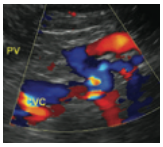
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

PRIMARY FINDINGS

- 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. Pyelectasia of the left kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Ill-defined hypoechoic nodule visualized within the spleen. There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

- Large heterogenous liver with rounded margins and an irregular hyperechoic mass effect. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other

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hepatopathy. The “bulging” area of the liver is somewhat subtle and not visible on all views. This could represent a subtle mass effect or an irregularity in hepatic contour.

- Distended gallbladder with a large amount of intraluminal debris with early organization. The gall bladder changes are most consistent with a developing mucocele. Consider medical management and close monitoring for progression of this lesion.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

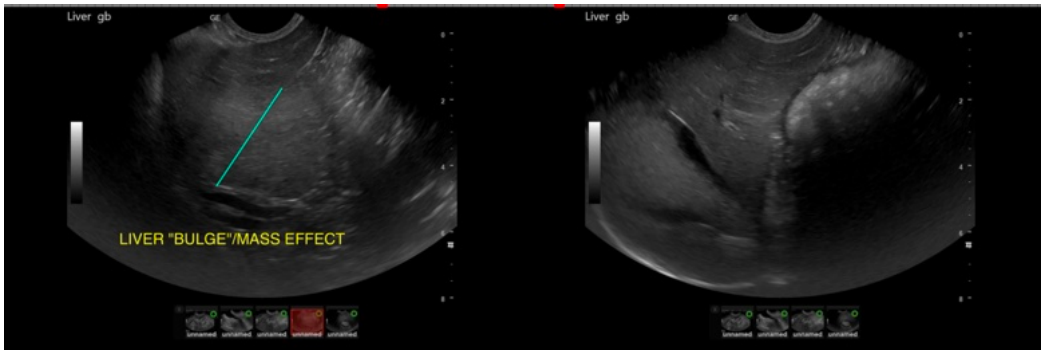
The changes associated with the kidneys are likely consistent with chronic progressive renal disease. Provided a urine analysis and culture is relatively normal the pyelectasia on the left side is likely incidental at this time but continued monitoring is warranted.

There is a small hypoechoic nodule in the spleen. Options moving forward would include a fine needle aspirate or continued monitoring with ultrasound.

The liver appears large and rounded with heterogenous parenchyma creating ill-defined hyper and hypoechoic regions/nodules. Additionally, on some views there is a hyperechoic rounded area creating somewhat of a “mass effect”. This could represent a true mass or a bulging area of liver. It is likely that a contrast CT scan would be necessary at this time to differentiate.

Additionally, a fine needle aspirate of this region could be considered or continued monitoring with ultrasound, particularly if surgical intervention would not pursued.

The gallbladder is large with a large amount of intraluminal debris and some early organization. Recommend a chronic Ursodiol therapy and continued monitoring of the liver values and the appearance of the gallbladder with ultrasound.



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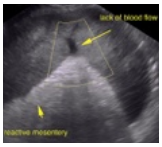
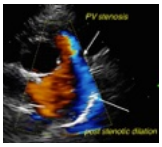
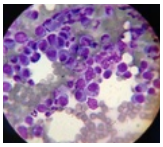
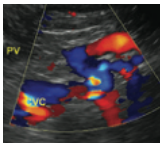

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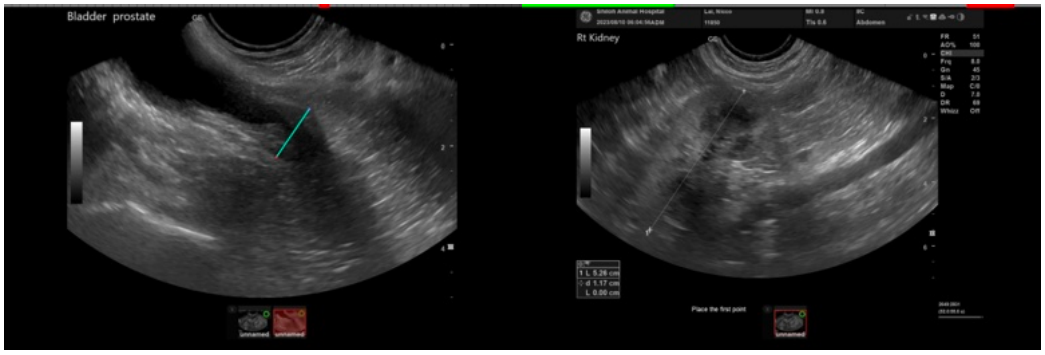

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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