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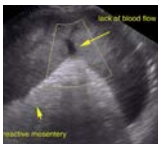
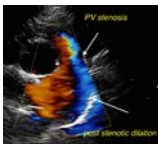
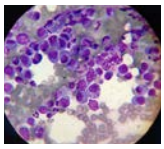
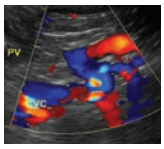





SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**
Peanut Butter Peric

**SPECIES**
Canine

**BREED**
Siamese

**SEX**
Spayed Female

**AGE**
9 Years

**WEIGHT**
6.57 Pounds

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

**IMAGING PERFORMED BY**
Dr. Megan Cassels-Conway

**HOSPITAL NAME**
Central Broward AH

**REFERRING VET**
Dr. Megan Cassels-Conway

**INVOICE**
34063

**DATE**
1/6/22

## PRESENTING CLINICAL SIGNS

Chronic UTIs and pyelonephritis (treated with orbax 4 weeks, currently off 3 weeks). Chronic progressive weight loss 1 year (originally 9 lbs december 2020). Known cystolith, P having intermittent urinary accidents and will urinate when abdomen touched. Progressive worsening azotemia. Hyperthyroid well controlled on felimazole- diagnosed 3/2021. BP 149/115 MAP 113. Heart murmur grade 2/6 systolic parasternal. Thoracic rads pending.
Abnormal PE/Chem/CBC/UA Results: 12/10/2021 CBC: WNL CHEM: Creat 2.8, BUN 41 UA: 1.043, pH 8, 3+ protein, 3+ bili, 3+ blood C/S: 1. Heavy growth Staph aureus 2. Heavy growth MRSP 11/13/2021 CBC: WNL CHEM: Creat 2.1, BUN 41, PSL 37 T4: WNL 2.0 U/A: 1.024, 3+ protein, 3+ blood, RBC 2-3, Rods 25-50 3/2021 CBC: WNL CHEM: Creat 1.8 UA: 1.025, 3+ blood, 3+ protein T4 4.7 H C/S No growth, contaminant Bacillus 12/2020 CBC: WNL CHEM: Creat 1.6 T4: 3.9 borderline high U/A: 1.022, 2+ protein, 3+ blood, cocci and rods <10

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is minimally distended with urine. No appreciable lumen is visualized aside from a hyperechoic shadowing mineralization most consistent with cystic calculus measuring 0.74 cm. Evaluation of the mucosa, trigone, ureteral papillae and visible urethra to a depth of 2.0 cm is not possible. No other abnormalities are visualized.

The left kidney has a normal shape and size (3.04 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. 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 has a normal shape and size (4.14 cm) with mild pyelectasia of 0.29 cm and very small pinpoint nephroliths, which appear to be in the renal pelvis, measuring 0.11 and 0.15 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The left adrenal gland is normal in size measuring 0.21 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.

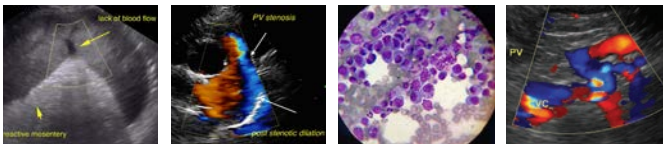
The right adrenal gland is normal in size measuring 0.23 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

### *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 subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a large, hyperechoic, ill-defined, cystic/moth-eaten appearing mass effect in the right side of the liver, measuring 2.59 cm x 3.17 cm.



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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

### *Gastrointestinal*

The stomach contains minimal luminal contents. 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 (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with moderate pancreatitis.

### *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.

## ULTRASONOGRAPHIC FINDINGS

- Hyperechoic shadowing structure within the urinary bladder, most consistent with a cystic calculus – Correlate with radiographic findings.
- Decreased corticomedullary distinction in both kidneys with right-sided mild pyelectasia and renal pelvic stones – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Large, hypoechoic pancreas – The pancreatic changes are most consistent with mild/moderate pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.
- Large, hyperechoic/moth-eaten mass effect in the right side of the liver – This lesion could represent a benign or cancerous lesion, an abscess could be possible as well. Recommend fine needle aspirate.

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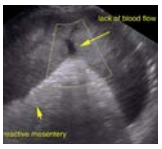
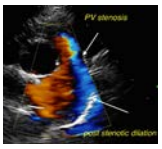
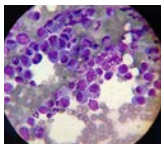
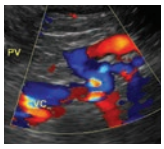

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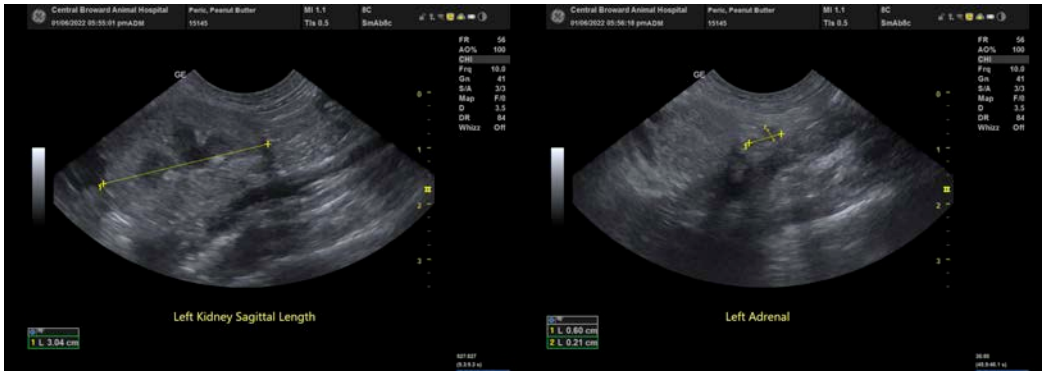
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

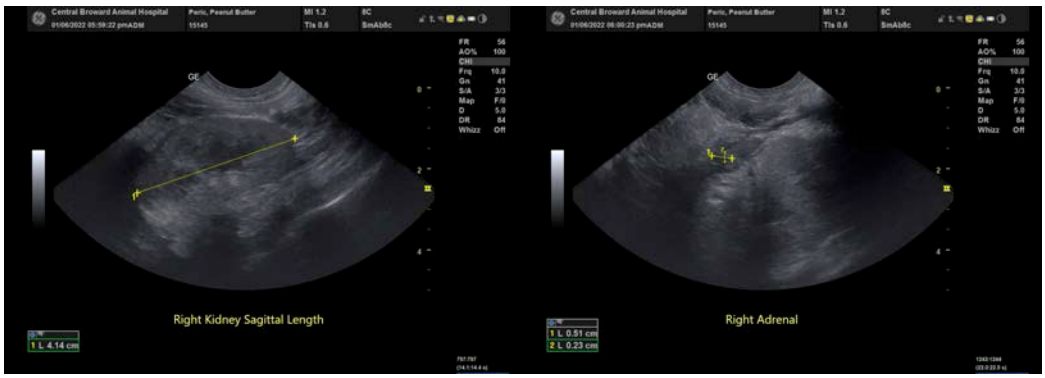
The renal changes observed are consistent with the history of chronic renal disease and recurrent urinary tract infections. I was not able to clearly see pyelectasia in the left kidney nor any evidence of hydroureter, but this could be present and better visualized with high resolution and color flow to contrast between the vessels in this area.

Additionally, there is a stone in the bladder. Depending on the composition of the stone (calcium oxalate versus struvite), this could potentially be dissolvable, or could be part of the reason there has been such recurrence and difficulty in resolving the infection. If a culture with susceptible bacteria is identified, and you get a treatment window, I would consider cystotomy to remove the stone and get it analyzed in hopes that it will lessen the likelihood of recurrence of the infection.

Additionally, there is a large lesion in the liver. This could be benign or cancerous or may even represent an abscess. If possible, a fine needle aspirate may help differentiate. If removal is considered, then ideally a preoperative contrast CT scan would be ideal for surgical planning. Recommend 3-view thoracic radiographs.

The pancreas is large and very prominent, but surrounding tissue does not appear overly inflamed. I suspect this is consistent with resolving pancreatitis or previous pancreatitis, but it could also be consistent with infiltrative disease. Consider evaluation of quantitative PLI, and if this is a persistent issue, then consider a fine needle aspirate of the pancreas.



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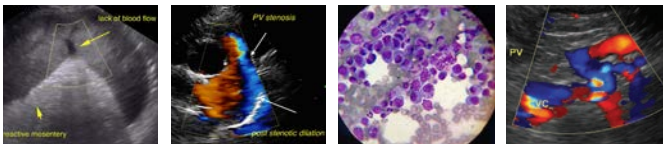

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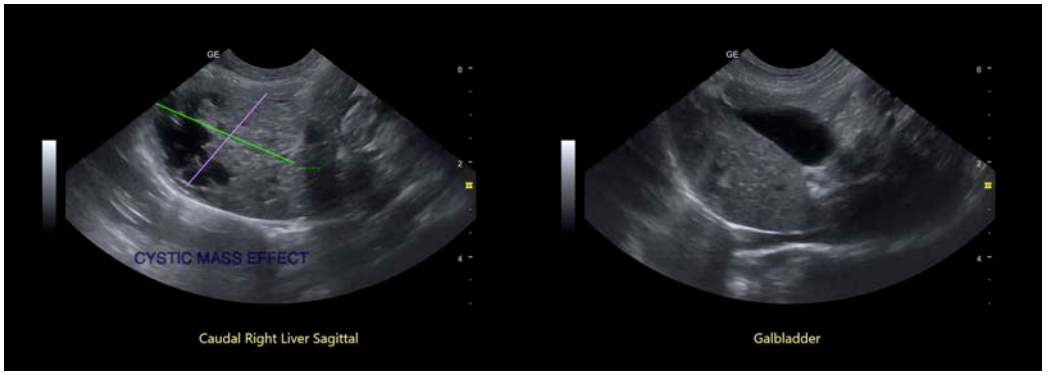


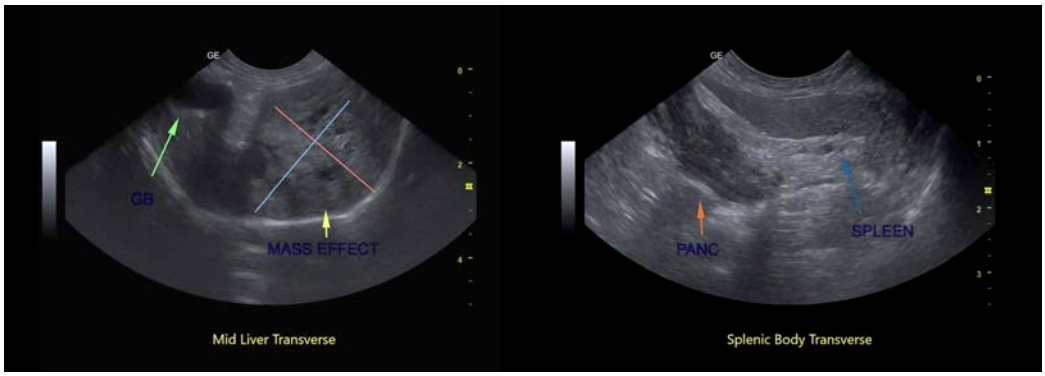


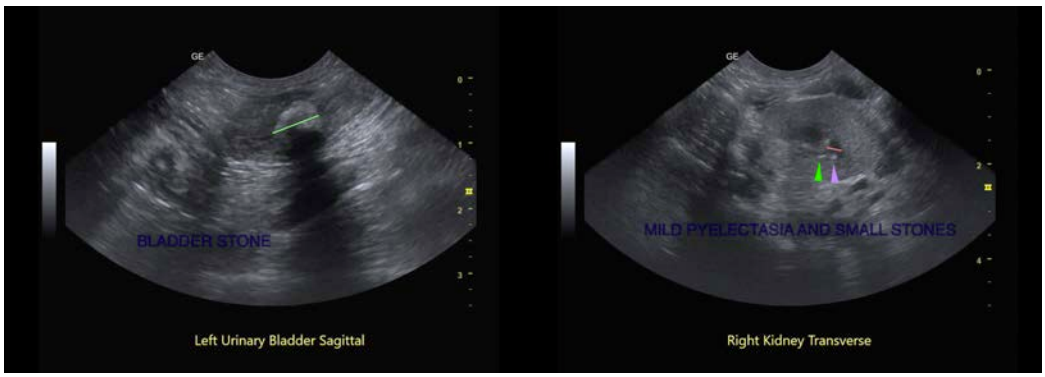


**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

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kathleen.sennello@sonopath.com