

**PATIENT PRESENTING CLINICAL SIGNS**

Squirt Olsberg

**SPECIES**

Canine

**BREED**

Chihuahua Mix

**SEX**

Spayed Female

**AGE**

12y

**WEIGHT**

4kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME**

Lux Pet Vet

**REFERRING VET**

Dr. Kristin Kee

**INVOICE**

10418

**DATE**

8/16/2023

In 2022, patient had a history of crystalluria, mildly elevated ALT, elevated BUN, and severely elevated post-prandial bile acids. Crystalluria resolved and elevated post-prandial bile acids returned to normal at recheck 4 months after initial diagnostic work-up performed. Abdominal U/S last year found a nodule on the spleen and some cysts and changes to both kidneys (Liver: Mildly enlarged with rounded margins. No masses or nodules visible Gall Bladder: Small amount of echogenic debris Spleen: Hypoechoic nodule measuring ~ 6.5 mm in diameter). Patient also has a history of intermittent gastroenteritis, collapsing trachea, and mammary masses (mastectomy previously performed to resolve this). Upon exam, patient is BAR with very mild periodontal disease, grade 3-4 bilateral MPL, and some SQ masses. BCS 6/9. BP systolic 160mmHg- MEDS Cranberry/D-Mannose/Echinacea Powder, Milk Thistle, Loratidine, Nordic Naturals Omega-3, Turmeric Compound, Dasuquin Advanced with ESM.

Abnormal PE/Chem/CBC/UA Results: ALB 4.6 \* g/dL 2.5 - 4.4 ALP 156 \* U/L 20 - 150 ALT 223 \* U/L BUN 43 \* mg/dL Ca 11.7-HCT 62.10 %

**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 has a normal shape and size (3.74 cm) with small pinpoint mineralizations and numerous anechoic cortical cysts the largest of which measures 0.67 cm x 0.81 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.

The right kidney has a normal shape and size (3.68 cm) with numerous small cortical cysts. 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.

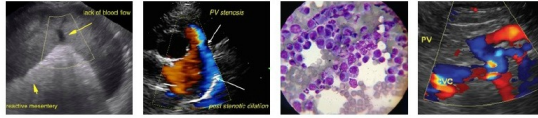
**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.56 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 0.4 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



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normal. There is a hypoechoic nodule visualized in the cranial portion of the spleen measuring 0.73 cm x 0.87 cm.

**Liver**

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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. No focal nodules or cystic lesions are observed.

**BREED**

Chihuahua Mix

The gall bladder lumen is moderately distended. The wall of the gall bladder has irregular polypoid projections and there is a moderate amount of non-organized echogenic debris. There are one to two more prominent hyperechoic polyps one of which is visualized near the gallbladder neck measuring approximately 0.53 cm. The cystic and common bile ducts are normal/not visible.

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**Gastrointestinal**

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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.

**WEIGHT**

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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 (0.29 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.

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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.

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**Pancreas**

The pancreas is prominent and mildly mottled in the right limb compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is no significant lymphadenopathy. A sub lumbar lymph node is visualized measuring 0.44 cm, and a mesenteric lymph node is visualized at 0.3 cm. The omentum is generally of normal echogenicity.

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**Other**

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

**INVOICE**

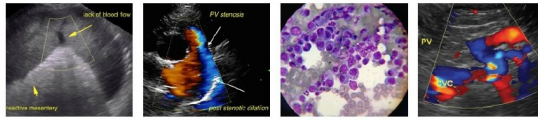
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**PRIMARY FINDINGS**

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- Decreased corticomedullary distinction in both kidneys with numerous cortical cysts and occasional small mineralizations. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.



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- Hypoechoic nodule in the cranial aspect of 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.
- Heterogenous liver. The diffuse hepatic changes are non-specific and can be seen with vacuolar hepatopathy, reactive change, nodular hyperplasia or, less likely, inflammatory/immune-mediated disease, infiltrative neoplasia, or other hepatopathy.
- Irregular gallbladder wall with moderate debris and polypoid projections. The significance of the gall bladder polyps and debris is unclear. This could represent an early mucocele, cholestasis, or chronic inflammation, or could be an incidental finding.

**SECONDARY FINDINGS**

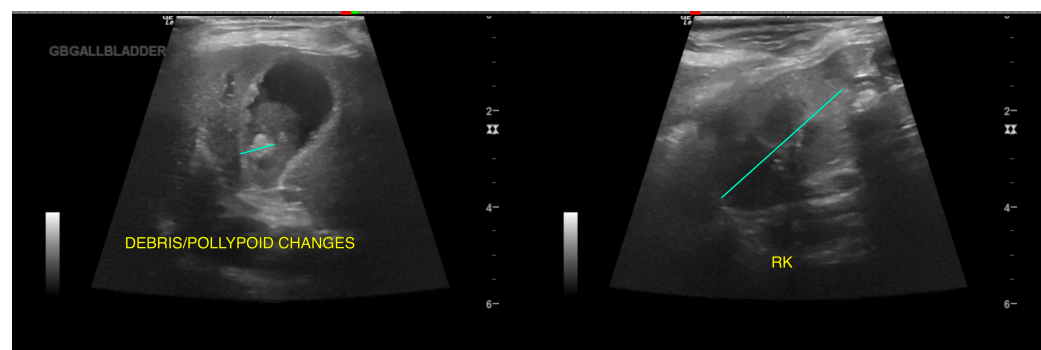
- Prominent mottled right limb of the pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis, or chronic pancreatitis.

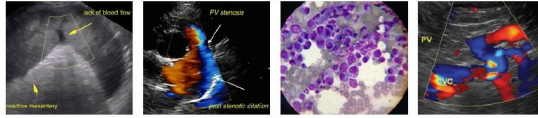
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The changes observed in the kidneys are consistent with chronic persistent progressive renal disease. Recommend a blood pressure, urinalysis, and culture as a baseline.

There is a small hypoechoic nodule visualized in the spleen. I suspect this is the nodule previously visualized and it appears relatively stable. This could represent a benign or neoplastic nodule. Recommend continued monitoring.

There is a moderate amount of debris visualized in the gallbladder and the gallbladder wall appears slightly irregular with some polypoid projections. One of these projections is more hyperechoic/possibly mildly mineralized. Consider starting Ursodiol therapy +/- course of antibiotics treating for possible cholangitis and continued monitoring of the liver values and gallbladder.





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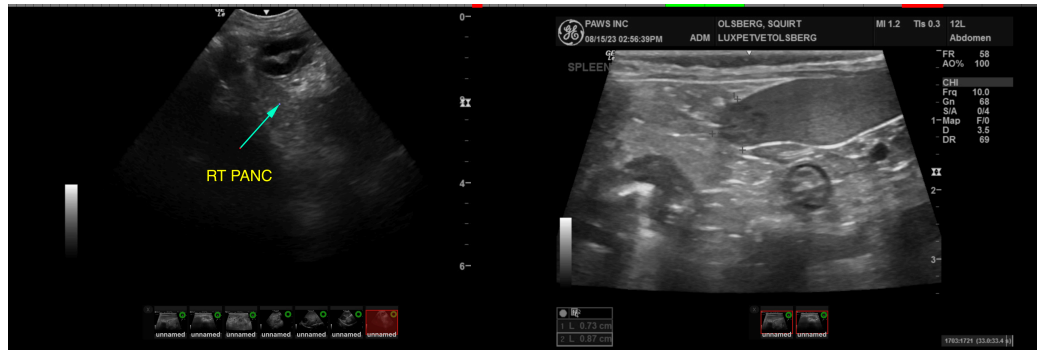
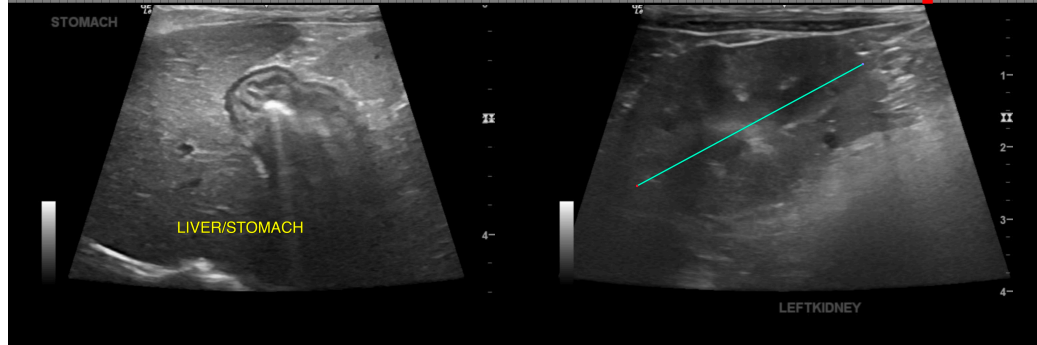
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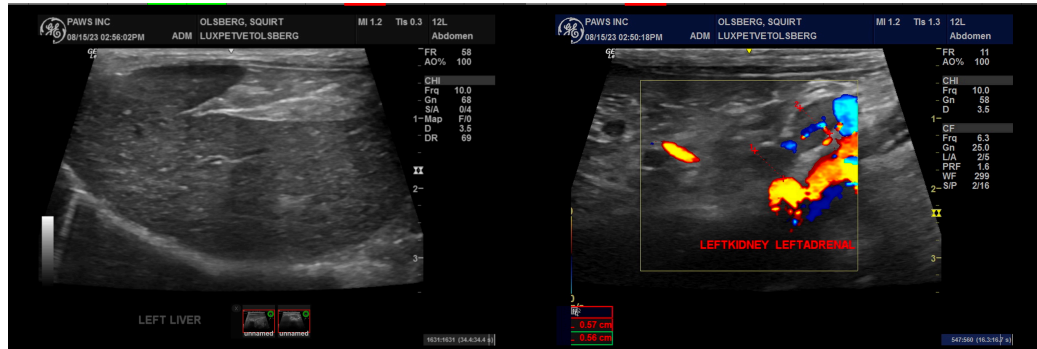


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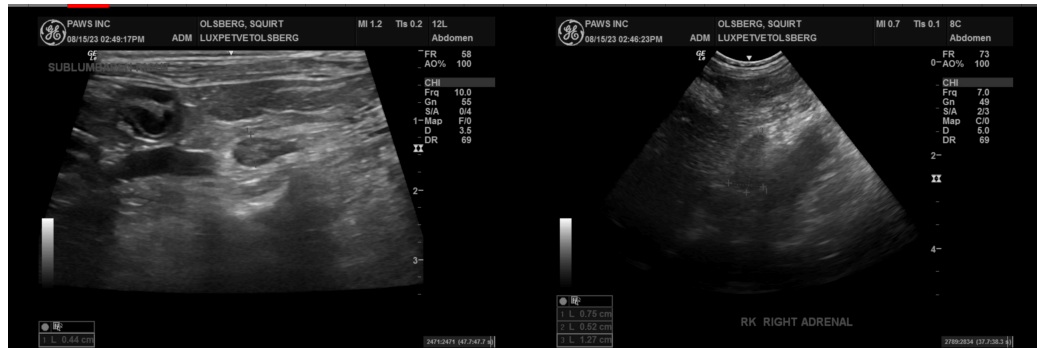
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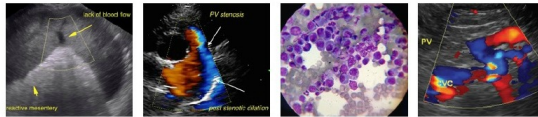
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not



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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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