

**PATIENT**

Pinkie Lippincott

**SPECIES**

Canine

**BREED**

Australian Cattle Dog

**SEX**

Neutered Male

**AGE**

11 Years

**WEIGHT**

24.4 kg

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Wendy Turner

**HOSPITAL NAME**

Pennsauken AH

**REFERRING VET**

Dr. Megan Odgers

**INVOICE**

44878

**DATE**

8/23/23

**PRESENTING CLINICAL SIGNS**

Housemate passed away a month ago, and pet has been declining since. Not eating for the last week. No C/S/V/D, D/U/D normally. History OA reported by O.

Abnormal PE/Chem/CBC/UA Results: BCS 7/9 with depressed attitude, slightly sparse coat. BW attached and offers the following: Alb 2.4 (2.7-4.4), Globulin 4.3 (1.6-3.6), ALP 749 (5-131), glucose 191 mg/dl, cholesterol 354 (92-324), amylase 1660 (290-1100), PSL 645 (24-140). WBC's 27.7 (Absolute neutrophilia, lymphopenia). T4 0.7ug/dl (0.8-3.5). Urine pending.

**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, or masses. In the dependent portion of the urinary bladder there are numerous hyperechoic shadowing foci most consistent with numerous small calculi. Correlate these findings with abdominal radiographs, urinalysis and culture.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (6.55 cm) with numerous cortical cysts, the largest of which measures 1.13 cm x 1.32 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 (6.46 cm) with an occasional small cortical cyst visualized. 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.

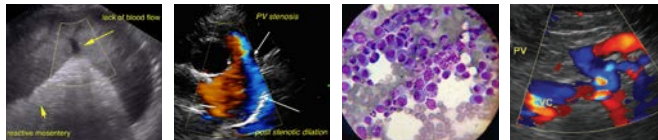
**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.84 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 0.72 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.



**PATIENT**

*Liver*

Pinkie Lippincott

The liver is subjectively normal in size, and hypoechoic 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.

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The gallbladder lumen is moderately distended. There is a large amount of hyperechoic debris that appears adhered to the gallbladder wall. This material is hyperechoic and the gallbladder wall appears mildly thickened. 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.

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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. Duodenum wall measures 0.45 cm. Jejunum wall measures 0.34 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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MS, Diplomate ACVIM  
(Small Animal Internal  
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**Pancreas**

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.

**IMAGING PERFORMED BY**

Wendy Turner

**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 mesentery appears somewhat hyperechoic around the right kidney in the cranial abdomen.

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**ULTRASONOGRAPHIC FINDINGS**

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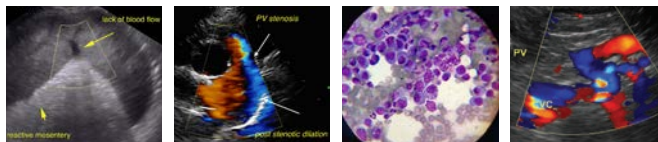
- Dependent hyperechoic shadowing foci in the urinary bladder – Findings are most consistent with numerous small calculi. Correlate size and number of stones with abdominal radiographs, urinalysis and culture results.
- Decreased corticomedullary distinction in both kidneys with cortical cysts – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Hypoechoic, heterogeneous liver – 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 hepatopathy.

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- Moderate adhered debris visualized in the gallbladder – The significance of this is unclear. There is no surrounding inflammation noted at this time.

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An obvious source of the anorexia and hypoalbuminemia is not visualized.

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Both kidneys appears to have decreased corticomedullary distinction and some cortical cysts. This could be consistent with age related change but there could be more significant renal disease present. Given the bladder stones present, recommend a urinalysis, culture, and urine protein to creatinine ratio, looking for possible renal disease as a source for the hypoalbuminemia reported.

**SEX**

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Additionally, the liver appears somewhat hypoechoic and heterogeneous. This is somewhat atypical for an elevation in ALP (typically iso- to hyperechoic). These changes can be seen with infiltrative disease, inflammatory or infectious disease, or a vacuolar hepatopathy. Recommend a liver function test and a fine needle aspirate of the liver (provided coagulation parameters are normal).

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There is a large amount of hyperechoic debris adhered to the gallbladder wall, making the exact thickness of the gallbladder wall difficult to assess. There is minimal surrounding inflammation noted. Consider chronic Ursodiol therapy and continued monitoring of the gallbladder for progression of this lesion.

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If there is minimal proteinuria and liver function is normal, then consider the possibility of a primary protein losing enteropathy. No focal lesions are visualized associated with the gastrointestinal tract, and the bowel visualized appeared relatively normal, but sometimes GI biopsies are necessary to further evaluate a protein losing nephropathy. Additionally, ultrasound can be relatively insensitive in picking up gastric mucosal lesions, ulcerations, etc., so upper GI endoscopy may be warranted.

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While the area of pancreas visualized on today's scan appeared relatively normal, consider a GI panel to Texas A&M for a quantitative fPLI, TLI, cobalamin and folate to further evaluate the small intestine and the pancreas. If PLI levels are elevated, underlying pancreatic inflammation may be contributing to the clinical signs reported.

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

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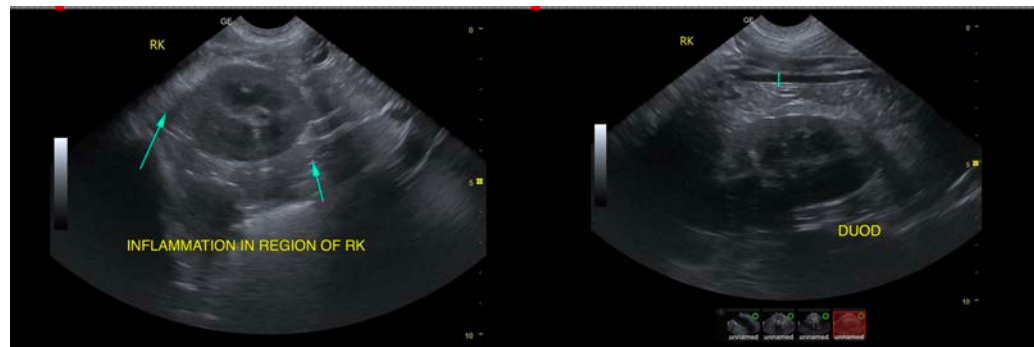
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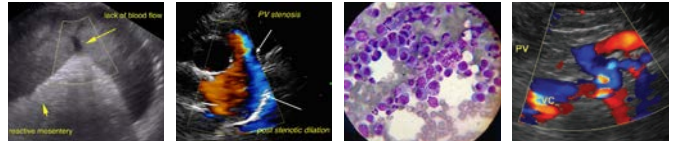
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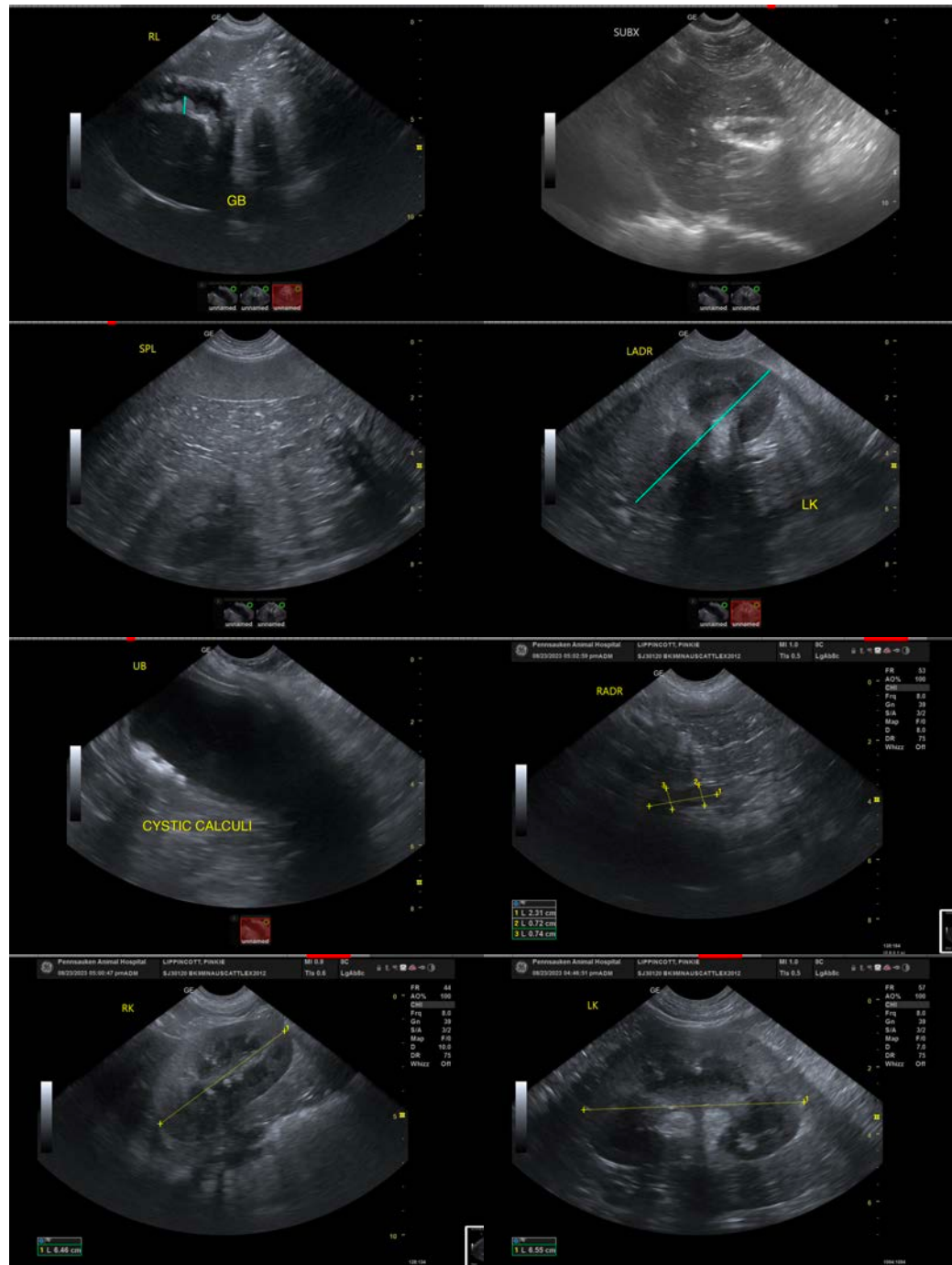
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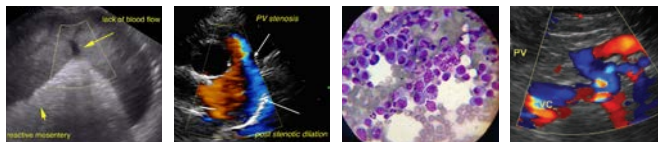
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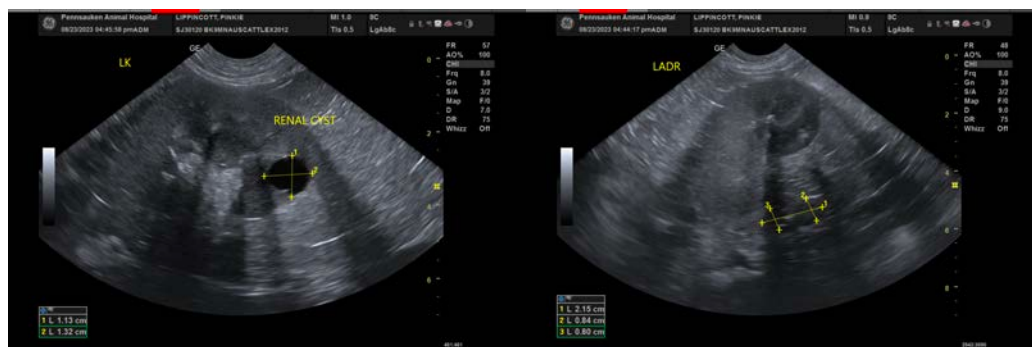
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

info@sonopath.com