

**PATIENT**

Betty Shirak

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed Female

AGE

12 years

WEIGHT

14.2 lbs

INTERPRETED BYKathleen Sennello
DVM, MS, Diplomate
ACVIM (Small Animal
Internal Medicine)**IMAGING PERFORMED BY**

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VETWixom Family Pet
Practice**INVOICE**

95554

DATE

1/23/22

PRESENTING CLINICAL SIGNS

History of hyperthyroidism (currently on Methimazole) CKD stage 2 Pruritis responsive to cyclosporine Presents for AUS due to chronic vomiting (food sensitivity to fish/seafood) and chronic kidney disease. Abnormal PE/Chem/CBC/UA Results: Most recent lab work 1/17/22: BUN 61.2 (15-32) Creat 3.6 (0.8-1.8) TP 8.1 (6-8) Globulin 5 (2.8-4.8) Last UA performed 9/25/21: pH 6.5 USG 1.035

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 size (3.12 cm) and irregular in shape due to previous infarcts. 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 are non-obstructive nephroliths visualized and pyelectasia measuring 0.2 cm. Renal vasculature is normal.

The right kidney has a normal shape and size (4.37 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. Pyelectasia was noted and measured 0.36 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.39 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.

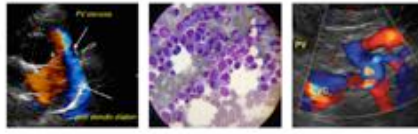
The right adrenal gland is normal in size measuring 0.4 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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 normal. No focal parenchymal abnormalities are visualized. The spleen measured 0.8 cm in width at the level of the hilus.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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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 (between 0.15-0.36cm.) 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 prominent and hypoechoic as 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.

Free Abdomen

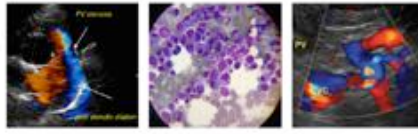
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS**PRIMARY FINDINGS:**

- Decreased corticomedullary distinction in both kidneys with bilateral pyelectasia. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Prominent, hypoechoic 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

No focal lesions are visualized to explain the vomiting reported although there are numerous causes for chronic vomiting, which cannot be diagnosed with ultrasound alone including food allergy, dysbiosis, mild IBD, etc. Additionally the kidneys have age related changes and bilateral pyelectasia. I recommend blood pressure evaluation, urinalysis and culture along with urine protein to creatinine ratio.



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The azotemia is severe enough to be causing GI signs so symptomatic therapy would be reasonable. If concurrent GI disease is suspected you can consider a GI panel to Texas A&M for a qualitative fPLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine. Additionally you can try an alternate novel protein or hydrolyzed protein diet or consult with a nutritionist to try and find a homemade diet that satisfies this criteria in addition to being lower in protein phosphorus, etc., which would be appropriate as a renal diet. If vomiting persists and renal values are not likely a cause then you can consider endoscopic GI biopsies.



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SVS Mobile Imaging MI 734-637-7711
svsimagingmi@gmail.com



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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)
kathleen.sennello@sonopath.com