

**PATIENT PRESENTING CLINICAL SIGNS**

Pfeiffer Hazelwood

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

10/14/2014

**WEIGHT**

5.5kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME**

Advanced PetCare of  
Nevada

**REFERRING VET**

Dr. Alexis Hazelwood

**INVOICE**

10251

**DATE**

6/13/2023

Pfeiffer is Dr. Hazelwood's family cat (her sister). Pfeiffer has been under the care of WSU Internal Medicine until moving to Reno July 2022. Pfeiffer was first noted to have azotemia 09/05/2019 when she was seen for pre dental labwork. 1 week later an abdominal ultrasound showed renolithiasis, mild dilation of left renal pelvis, and a left ureterolith. She was diagnosed with suspected CKD Stage 3 at the time. She was transitioned to a kidney diet. On 12/13/2018, the left ureter stone became obstructive and Pfeiffer developed pyelectasia along with worsened dilation of left ureter. She presented 12/18/2019 for SUB placement, but the ureteral stone had self-resolved; the hydronephrosis had improved significantly and her obstruction had resolved. Surgery was not performed. Pfeiffer has chronic recurrent UTI and also history of FIC. To mitigate FIC signs, gabapentin is administered before each consultation to decrease her stress and treat any pain following visits. She did have an episode in which she was hospitalized October 2021 for suspected pyelonephritis and potential gallbladder infection. No recurrence observed since. Pfeiffer has been IRIS Stage II consistently past few years (creatinine 1.9 as of 6/6/23 with USG 1.019 and SDMA 18). Has periods of mild hypercalcemia, currently she is normocalcemic. Currently, she has pyuria/bacteriuria, but elected not to treat per internist recommendations due to lack of clinical signs. She is still eating renal diet (Purina NF, Royal Canin Renal Support, Hills K/D). Pfeiffer recently became lame and painful in hind-end. Radiographs show degenerative joint disease and mild effusion both stifles as well as spondylosis of caudal lumbar and lumbosacral spine. Currently doing better – Gabapentin used PRN. Considering Solensia and plan to add Dasuquin/Welactin. Today, P was given Gabapentin prior to visit, and then sedated with Butorphanol 0.01 mL and Dexdomitor 0.01 MI for ultrasound.

Abnormal PE/Chem/CBC/UA Results: Attached LABs and RAD report.

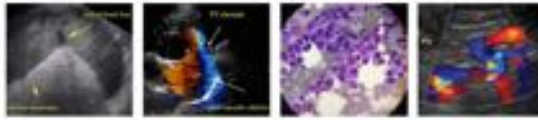
**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with primarily suspended echogenic debris and some dependent echogenic debris present. 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. There is a small focal, calculus visualized in the dependent portion of the urinary bladder measuring 0.3 cm. Echogenic debris of this type can be associated with small crystals, cellular debris, and proteinaceous debris.

The left kidney has a normal shape and size (4.22 cm). Overall echogenicity is significantly increased with poor corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is significant pyelectasia at 0.67 cm with numerous shadowing calculi visualized in the region of the renal pelvis and in the renal pelvis, without evidence of significant obstruction at this time. Two stones visualized measure 0.48 cm and 0.39 cm. Additionally, the left ureter is slightly prominent measuring 0.2 cm with an intraluminal stone measuring approximately 0.26 cm, with inflammation surrounding the ureter in this region. There is no evidence of infarcts. Renal vasculature is normal.

The right kidney has a normal shape and size (3.46 cm). Overall echogenicity is significantly increased with poor corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There are numerous stones visualized in and around the renal pelvis. The examples measure 0.5 cm and 0.55 cm. There is a 0.36 cm stone visualized in the renal pelvis, which is dilated at 0.47 cm. The ureter appears prominent and dilated with a thickened wall and surrounding hyperechoic mesentery. It is dilated at 0.2 cm. There is no evidence of infarcts. Renal vasculature is normal.



**PATIENT**

***Adrenal Glands***

Pfeiffer Hazelwood

The left adrenal gland is normal in size measuring 0.32 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.

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The right adrenal gland is normal in size measuring 0.46 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.

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***Spleen***

**SEX**

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The spleen is subjectively normal in size (0.89 cm), 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.

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***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.

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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 mild and 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.

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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 (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.

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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***

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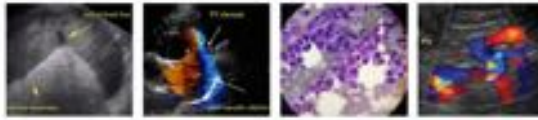
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The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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***Free Abdomen***



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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.

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**PRIMARY FINDINGS**

- A large amount of echogenic debris is visualized in the urinary bladder as well as a small calculus. This is consistent with a urinary tract infection reported.
- Decreased corticomedullary distinction in both kidneys with hyperechoic cortices, pyelectasia, and numerous stones visualized within the renal pelvis and around the renal pelvis. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Findings are most consistent with non-obstructive nephroliths.
- Bilaterally dilated and inflamed ureters (right worse than left) with a left sided ureteral stone.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is evidence of chronic renal disease as well as active urolithiasis with numerous stones visualized in both kidneys and in both renal pelvises. Evidence of a significant renal obstruction is not visualized at this time. Both ureters are surrounded by hyperechoic mesentery and inflamed, with a small ureterolith visualized in the left ureter. If not already doing so consider pain management, +/- diuresis in hopes of passing the stone, although evidence of significant obstruction is not seen at this time.

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Continued medical management for urolithiasis is recommended with regular imaging checkups and imaging if the patient is not feeling well. Additionally, consider chronic probiotic therapy.

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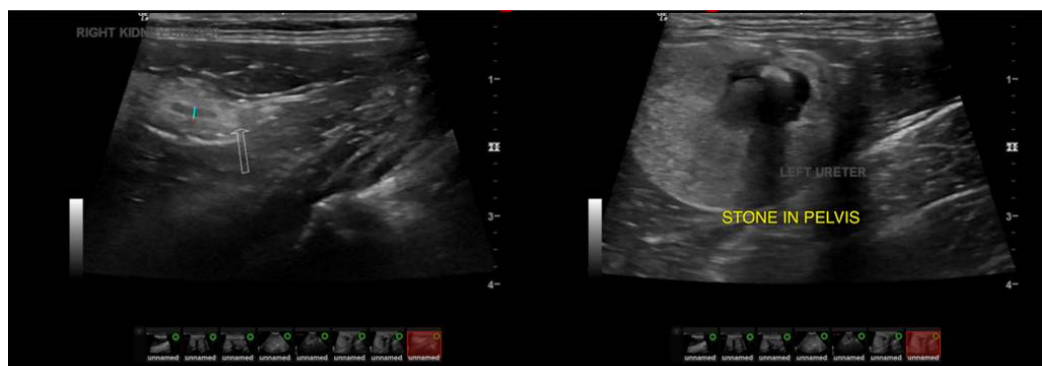
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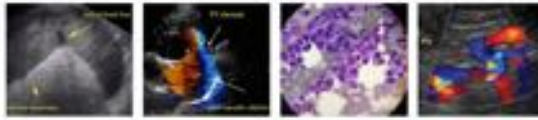
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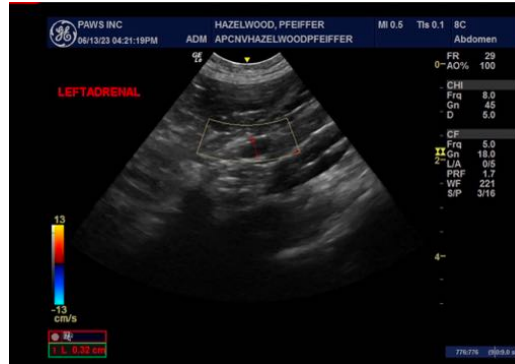
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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