

**PATIENT PRESENTING CLINICAL SIGNS**

**Minnie Ruffo** Has been having chronic hematuria. Now passing blood clots and tissue. Has been on Clavaseptin, Gabapentin and Fortekor. High stress in clinic, was given Gabapentin 100mg prior to ultrasound.

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

15 Years

**WEIGHT**

3.0 kg

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Cat Hospital of  
Burlington

**REFERRING VET**

Dr. Lowrey

**INVOICE**

43352

**DATE**

6/21/23

Abnormal PE/Chem/CBC/UA Results: Free catch U/A - Colour red, turbid, Sp. Grav 1.018, pH 5.5, Protein 2+, Blood 2+, WBCs greater than 100/hpf, RBCs greater than 100/hpf, marked rods, Squamous epith cells 1-2/hpf. Culture - no growth. Hemoglobin low, neuts high, glucose mildly elevated, Cholesterol elevated, ALP less than 10. SDMA 12(0-14)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

While the urinary bladder is empty, making full assessment of the wall for pathology difficult, it is diffusely thick measuring 0.61 cm with a hyperechoic and irregular mucosa. No distinct masses or cystoliths are observed. The visible pelvic urethra is normal in thickness with a smooth mucosal surface.

Kidneys are bilaterally normal in size with an overall hyperechoic echogenicity and slight loss of corticomedullary definition. Normal smooth peripheral margination and shape are maintained. The renal pelvis are dilated with anechoic fluid and hyperechoic thickened pelvic fat. No overt evidence of neoplasia or mineral is observed. The perinephric area is enhanced by hyperechoic fat and mesentery. The right kidney measures 3.4 cm with pyelectasia measuring 0.42 cm in the sagittal view. The left kidney measures 3.1 cm with pyelectasia measuring 0.23 cm in the sagittal view.

**Adrenal Glands**

The right adrenal gland is normal in size (0.37 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.51 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**Spleen**

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**Gastrointestinal**

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



**PATIENT**

Minnie Ruffo

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease.

**SPECIES**

Feline

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**BREED**

***Pancreas***

DSH

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**SEX**

Spayed Female

***Free Abdomen***

**AGE**

15 Years

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

**WEIGHT**

3.0 kg

Hyperechoic enhanced mesenteric fat is noted around both kidneys as well as adjacent to the urinary bladder.

**ULTRASONOGRAPHIC FINDINGS**

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

- **Pyelonephritis** – These changes are most consistent with chronic pyelonephritis. Chronic scarring and fibrosis and/or chronic nephrolith passage can also result in these pelvic dilation changes. Early infiltrative disease cannot be ruled out but is considered less likely.
- **Chronic Cystitis** - Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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If this patient's reportedly negative culture results were within days to a week or so after receiving antibiotics, a false negative is suspected, and reculturing the urine at least a week to days off antibiotics is recommended. Alternatively, direct sampling of the renal pelvis with ultrasound guided pyelocentesis for cytology and culture could be considered. If a representative sample cannot be obtained via centesis, ultimately cystoscopy could be considered for further evaluation of the bladder wall and biopsy for both histopath as well as deep culture of the tissue.

**REFERRING VET**

Dr. Lowrey

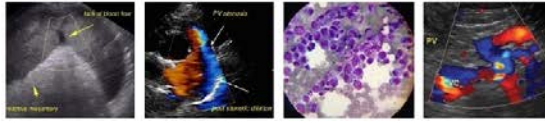
In the meantime after obtaining results, broad-spectrum empirical antibiotics as well as potentially anti-inflammatories may help alleviate clinical signs.

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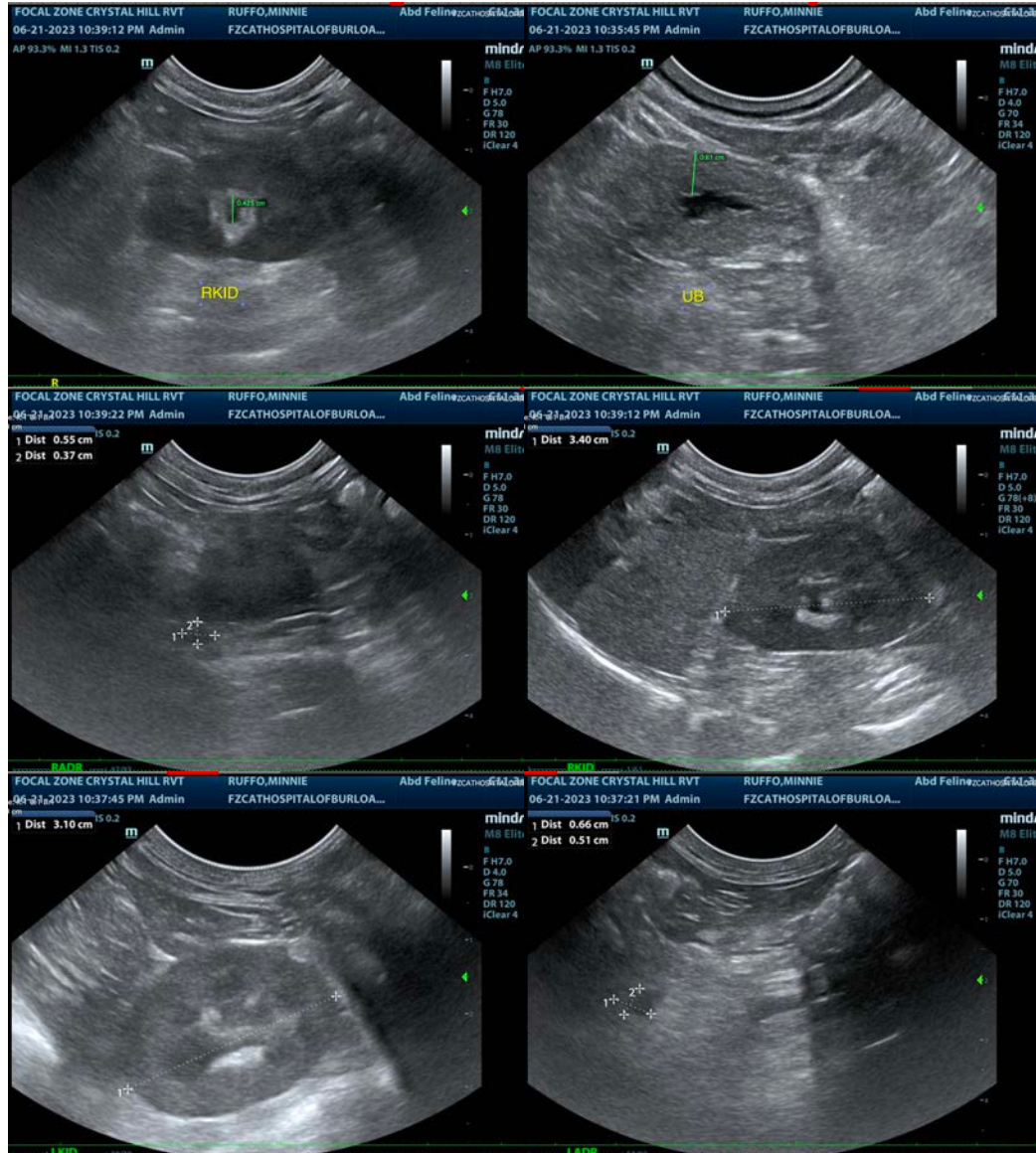
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
info@sonopath.com