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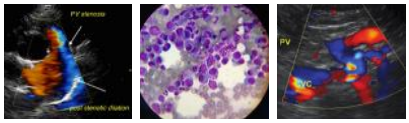
IntraPet.com



SonoPath
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DATE
12/29/21

PATIENT
Rocket Wison

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
7/9/16

WEIGHT
12.38 Lbs.

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

HOSPITAL NAME
Frederick Road VH

REFERRING VET
Dr. Beyer

INVOICE
13233

PRESENTING CLINICAL SIGNS

History: History of presumptive IBD-IntraPet u/s 6/9/2021. Owner okayed further workup/recommendations after IntraPet u/s=incidental finding of elevated renal values from 2.1 to 3.9 (in one month) but USG 1.052. Sent to ER for IV fluid therapy and further workup. At ER ultrasound bilateral pyelectasis and hydroureters (L>R), likely
representing a ureteral obstruction (secondary to ureteroliths, mucus plugs or stricture). Although pyelonephritis cannot be ruled out, it seems less likely. Bilateral subcutaneous ureteral bypass (SUB) was recommended due to ureteral obstruction, which was not elected due to cost of surgery without knowing exact prognosis. Repeat blood work after IV fluid therapy showed elevated renal values without improvement. (Last blood work CREA 3.4, BUN 29). Additionally, he is not eating in the hospital. We discussed euthanasia vs. home hospice care. Elected to take Rocket home for hospice care at this time. Unfortunately, Rocket has damage to his kidneys secondary to ureteral obstruction, which is not reversible without surgery, and will continue to worsen. Our goal is to make him feel as good as possible at home for as long as we can. Owner did not euthanize, and pet is doing well thus far,
renal values have continued to slowly decrease over time. Owner would like to recheck status of pet at this time

Current Medications: royal canin multifunction diet renal/hydrolyzed protein, Cerenia PRN, Gabapentin PRN, vit B12 250 ug SQ monthly; was on K supplement as it was low - has been low normal most recently.
Lab Results: Most recent bw from 10/12/2021: SDMA 14 ug/dL (0 – 14), CREA H 2.6 mg/dL (0.9 - 2.3). BUN/UREA 33 mg/dL (16 – 37), PHOS 3.2 mg/dL (2.9 - 6.3). 11/5/2021: Sodium = 160 mmol/L (150 – 165), Potassium = 3.7 mmol/L (3.5 - 5.8), Na/K = 44, Chloride = 122 mmol/L (112 – 129). Attached separately.

Radiographs: Attached separately.
Abdominal Ultrasound from ER performed by IMS:
Hepatobiliary: The hepatic parenchyma is normal in echogenicity and echotexture. No nodules or masses are evident. The gallbladder is moderately distended with anechoic bile. The gallbladder wall is normal (< 0.1 cm).
Spleen: The spleen is normal in margination with appropriate echogenicity and echotexture. There is no evidence of
nodules or masses.
Kidneys/Ureters:
The left and right kidneys are normal in size (left: 4.1 cm; right: 4.3 cm) and both have adequate corticomedullary distinction.
The left renal pelvis and left ureter are both dilated with anechoic fluid (pelvis 0.3 cm, proximal ureter 0.3 cm). The left ureter can be followed 1/3 of the way then it tapers abruptly, and visualization is lost. No hyperechoic foci or mass is seen within the left ureter.
The right renal pelvis is dilated with anechoic fluid (0.1 cm). The proximal right ureter is also dilated at 0.3 cm, then it tapers abruptly, and visualization is lost.
Adrenal glands: The left adrenal gland is normal in size and echogenicity (left: caudal pole 0.4 cm). Normal regional appearance of right adrenal gland.
Urinary bladder: The urinary bladder is moderately distended. Wall thickness is appropriate for the degree of distention. There is hyperechoic floating debris within the lumen but no evidence of cystolithiasis or a mass.
Prostate: Not seen.
Gastrointestinal tract: There is focal gastric wall thickening (0.5 cm) but wall layering is preserved. Normal small intestinal wall (0.2 cm) and colonic wall thickness (< 0.3 cm).
Pancreas: Normal in echogenicity, no evidence of peripancreatic effusion or inflammation.
Lymph nodes: No evidence of mesenteric or sublumbar lymphadenopathy.

Conclusions:
Bilateral pyelectasia and hydroureter (L>R) likely represents a ureteral obstruction (secondary to ureteroliths, mucus plugs or stricture). Although pyelonephritis cannot be ruled out it seems less likely. A lateral abdominal radiograph is recommended to evaluate for ureteroliths.
Date of Previous IntraPet Ultrasound: 6-9-2021.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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 (3.44 cm). Overall echogenicity is significantly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is possibly a trace whisp of fluid and some hyperechoic mesentery surrounding the left kidney. There is mild to no significant pyelectasia visualized at 0.12 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.1 cm). Overall echogenicity is significantly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. Minimal to trace pyelectasia is present at 0.17 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 0.38 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 0.44 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/borderline large in size, measuring 1.0 cm at the hilus (normal is <1.0 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.

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 gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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, and the jejunum measured as normal (0.21 cm). 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

- Bilaterally hyperechoic kidneys with loss of corticomedullary distinction and trace pyelectasia. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

Secondary Findings

- Borderline large spleen. This is likely normal for this large cat.

- Prominent hypoechoic pancreas. The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

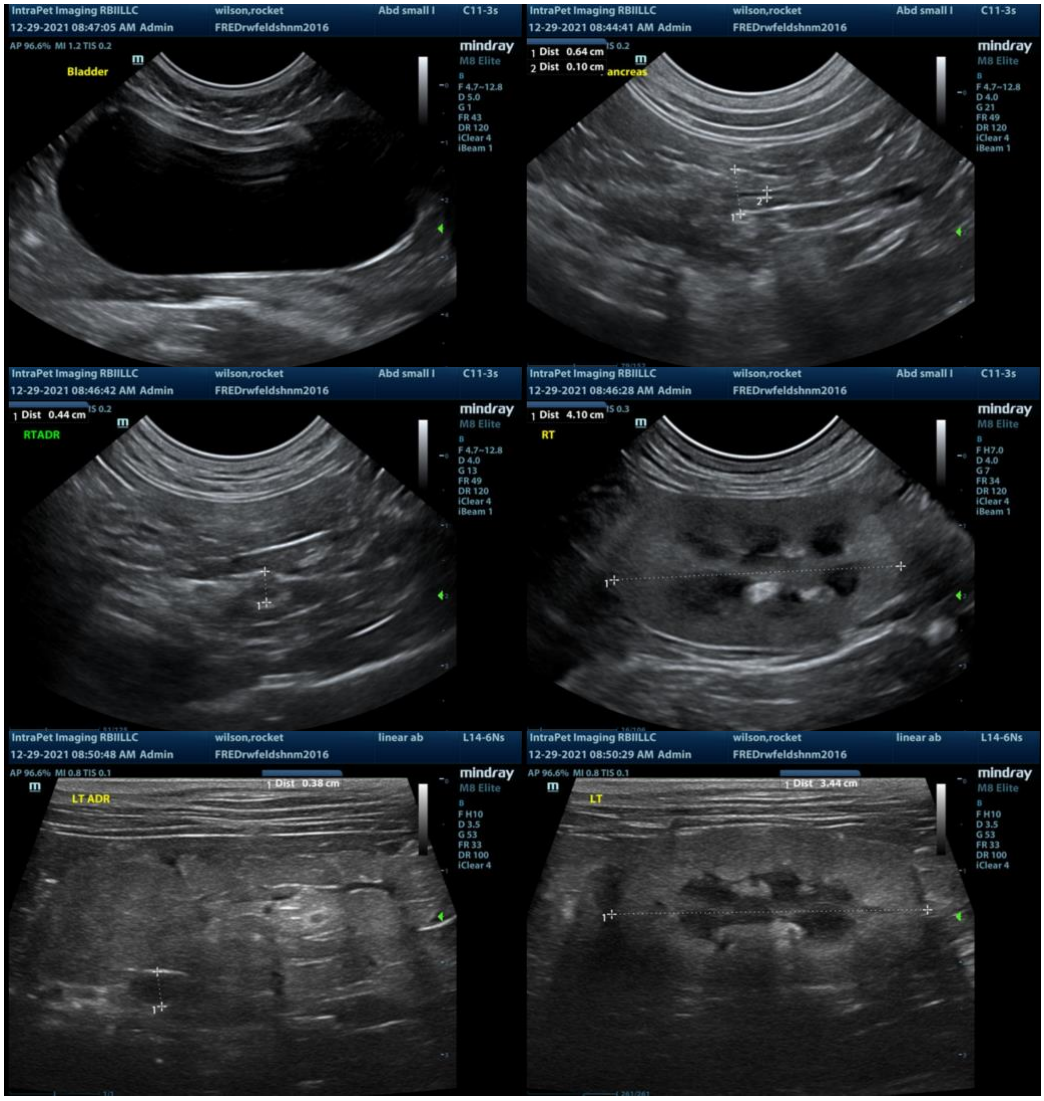
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

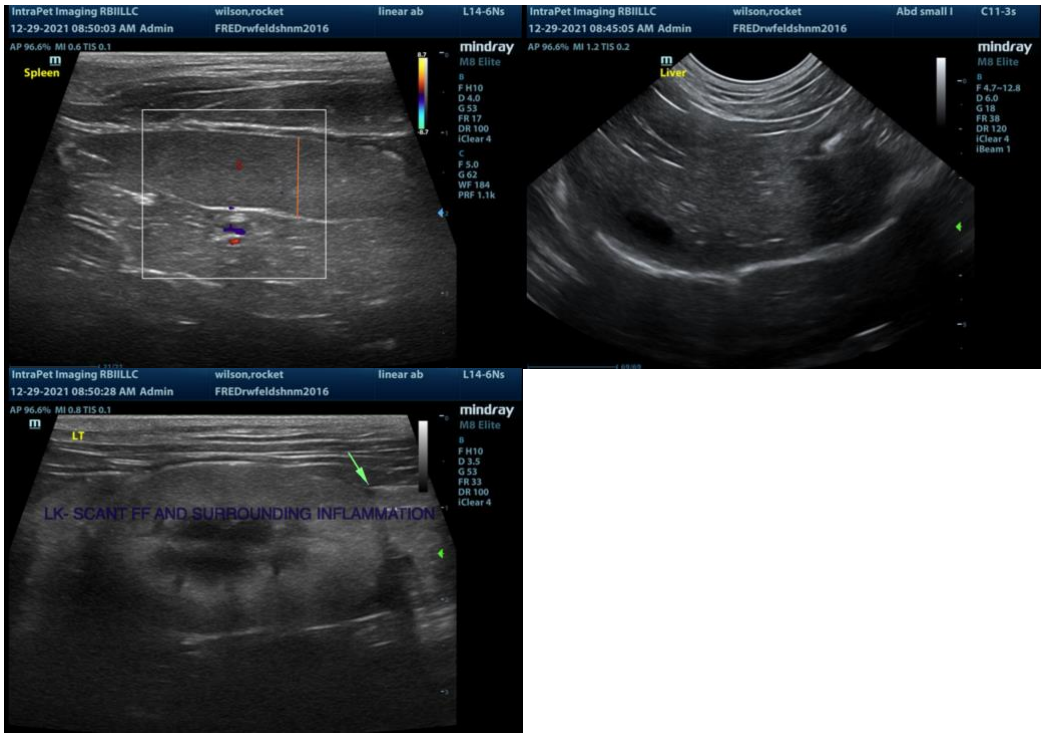
The kidneys appear somewhat irregular with loss of corticomedullary distinction, and they are both hyperechoic. In particular, the left kidney has some mildly hyperechoic mesentery surrounding it, but the amount of pyelectasia present is clinically insignificant. I suspect the previous episode was possibly pyelonephritis or an obstruction that passed, but typically obstructive disease to the level of requiring ureteral bypass is severe and azotemia should not be present with unilateral obstruction. These findings are supportive of primary renal disease. I recommend periodic urinalysis and culture for monitoring purposes and possibly recheck periodic imaging of the kidneys.

This has likely been done already, but I recommend continued monitoring of blood pressure, electrolytes, renal values, etc. If this patient cannot maintain normal potassium levels off of supplementation, I would

continue it.

Overall, things appear improved, and it is very good news that this kitty is feeling better and renal values are improving.





The information and recommendations provided are based on the images presented by the referring veterinarian. 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.

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