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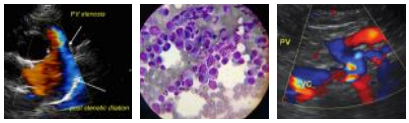

SonoPath
Clinical Sonography & Telecytology
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DATE

4/28/22

PATIENT

Sansa Dwyer

SPECIES

Feline

BREED

Siamese

SEX

Spayed Female

AGE

4/25/12

WEIGHT

5.6 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Eastern AH

REFERRING VET

Dr. Sole

INVOICE

37273

PRESENTING CLINICAL SIGNS

Presented 4/25 with vomiting and lethargy for 24 hours, no previous medical conditions. Diagnosed with SEVERE azotemia (creatinine 25) with no anemia. Hospitalized on IVFT and creatinine down to 10 after 48hours.

Current Medications: Convenia 4/25, Cerenia SID starting 4/25
Semintra starting 4/27. Gabapentin prior to scan.
Lab Results: Severe Azotemia, Hypertension.
Radiographs: Apparent left renomegaly.
Date of Previous IntraPet Ultrasound: No previous.
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 relatively normal shape and is small in size, measuring 3.3 cm. It exhibits decreased corticomedullary distinction and hyperechoic cortex. There is severe pyelectasia/early hydronephrosis present, with the renal pelvis measuring at 0.95 cm. There is a small amount of perinephric fluid and significant inflammation around the kidney and proximal ureter. The proximal ureter is mildly dilated, measuring 0.33 cm. As it gets distally, there is a questionable hyperechoic structure that could represent a stone, measuring approximately 0.4 cm. Vascular uptake in this kidney appears poor.

The right kidney has a relatively normal shape and is larger in the size than the left kidney, measuring at 3.61 cm. It has decreased corticomedullary distinction and severe renal pelvic dilation/hydronephrosis at 1.17 cm. There are numerous hyperechoic shadowing stones evident within the renal pelvis. One of the largest measures at 0.77 cm. There is a small amount of perinephric inflammation and fluid evident. The proximal ureter is visible and dilated, measuring at 0.42 cm. It appears to narrow and be lost to follow. No intraluminal stone is visualized. Vascular uptake in the right kidney appears more appropriate.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.48 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 0.42 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.

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 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 (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. Prominent pancreatic duct noted.

Free Abdomen

There is a small amount of free abdominal fluid, particularly around both kidneys. There is no significant lymphadenopathy noted, but the omentum is of increased echogenicity around both kidneys.

ULTRASONOGRAPHIC FINDINGS

- Bilateral hydronephrosis and mild hydroureter with numerous nephroliths visualized in the right kidney, and questionable small occasional mineralizations noted in the left kidney – Findings are most consistent with bilateral chronic ureteral obstruction and chronic renal disease +/- pyelonephritis.

- Prominent, hypoechoic pancreas – I suspect the prominent pancreas is due to the focal peritonitis around both kidneys, but continued monitoring is warranted.

- Scant free abdominal fluid and focal peritonitis around both kidneys.

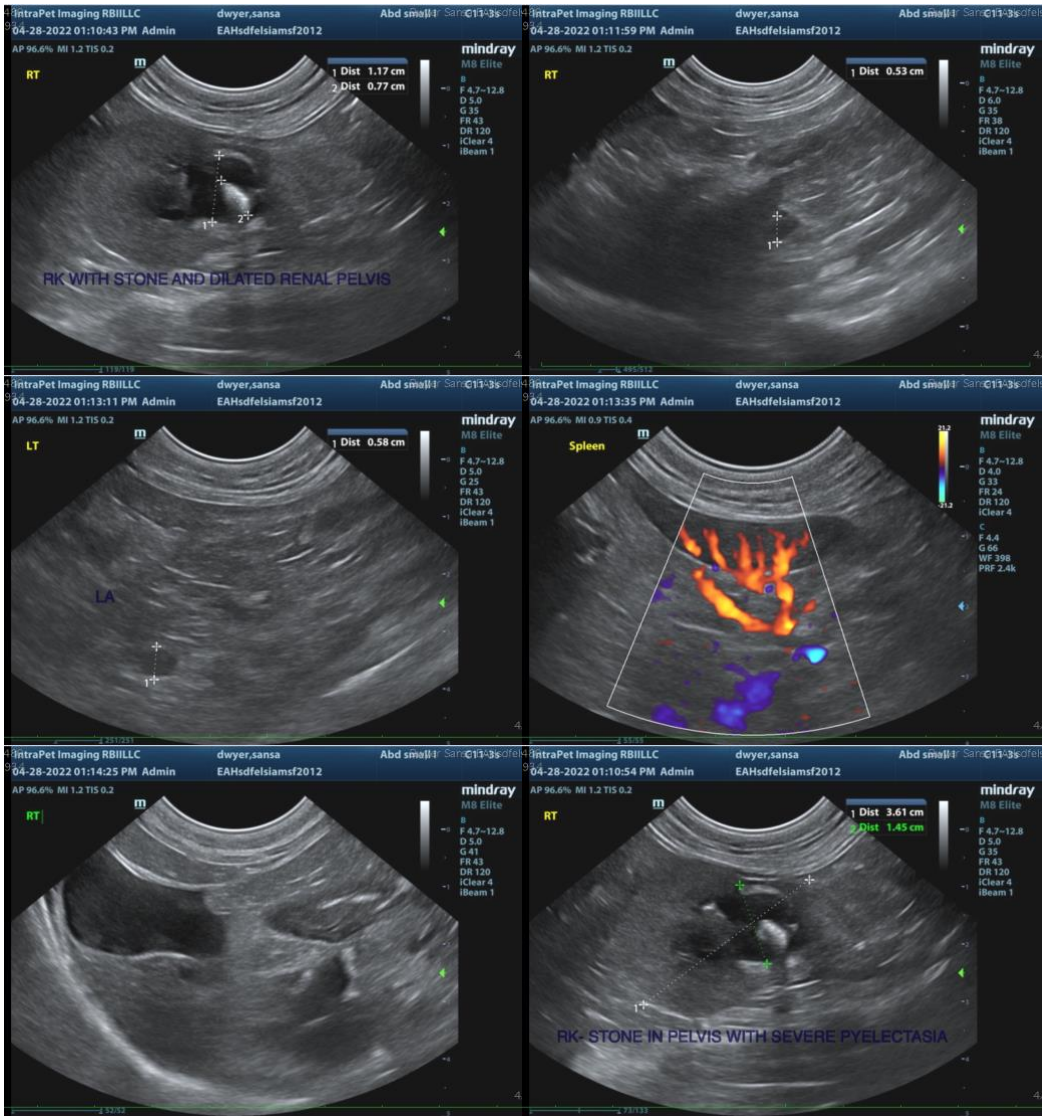
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

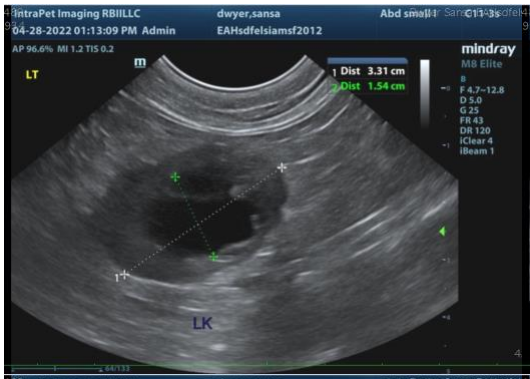
Both kidneys have hydronephrosis and hydroureter. The right kidney has numerous stones within the renal pelvis. The left kidney is smaller with no obvious obstruction, but there is concern for possible previous obstruction. It is excellent that the creatinine is improving with diuresis, but unfortunately in this cat's future I suspect some level of urinary bypass to be necessary to allow both kidneys to function. I'm concerned that the function of the left kidney may be limited, but the right kidney is of adequate size and has good blood flow, so regaining function may be possible.

In an ideal situation, this cat would be referred for possible preoperative CT scan and a subcutaneous ureteral bypass procedure. Additionally, blood pressure evaluation should be performed, and a urine culture

and urinalysis. This cat should be on broad-spectrum antibiotics while cultures are waiting, and probiotic therapy should be started. Despite the severe azotemia, if this patient is stable, I have had some patients do remarkably well with ureteral bypass and have their renal values continue to improve over months at home, and eventually normalize. If this patient is not stable, I would recommend continued diuresis if you're seeing improvement, along with pain medication and other supportive therapies. However, if the values fail to continue to improve or ultrasonographically the kidneys are continuing to dilate, then further intervention is necessary. Additionally, proactively I feel that early placement of a SUB device could help to prevent further deterioration of the kidneys.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

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IntraPet Imaging RBIILLC
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POSSIBLE STONE IN LEFT URETER
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IntraPet Imaging RBIILLC
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PANCREAS
mindray
M8 Elite

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.

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