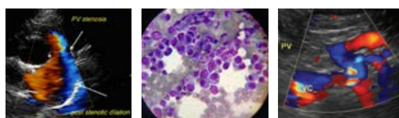


DATE
8/15/23

PATIENT
Merlin Reynolds

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
4/10/11

WEIGHT
11.5 Pounds

INTERPRETED BY
Dr. Sinclair

HOSPITAL NAME
Cat Sense Feline Hospital

REFERRING VET
Dr. Sinclair

INVOICE
44668

PRESENTING CLINICAL SIGNS

Presented on 8/4/23 for significant lethargy/depression, vomiting, and hematuria. Initially the hematuria was not accompanied with pollakiuria or stranguria but then he did start have LUTD symptoms. He had a low grade fever of 103.1, was very depressed, a bit dehydrated and painful on bladder palpation - he urinated extremely hematuric urine. Bloodwork showed a mild increase in 2 liver values. X-rays showed some very small bladder stones. He had a severe UTI that grew a B-hemolytic staph and Pseudomonas. The rads also showed a soft tissue nodule in the thorax that is suspicious for neoplasia, either primary or secondary. He has improved on amoxicillin gabapentin and cerenia and marbofloxacin was just added. I am concerned about whether he has pyelonephritis and also whether he might have evidence of cancer that could have spread to his lungs.

Current Medications: Amoxicillin 50mg bid, Marbofloxacin 25mg sid
Lab Results: ALT=183, AST=120. U/A severe pyuria/bacteriuria with B-hemolytic strep and Pseudomonas aeruginosa soft tissue nodule in lung at level of T7
Radiographs: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall largely appears of normal thickness with smooth mucosal surface, but in the ventral trigonal region there is an irregular, heterogeneous, mildly mineralized mass effect visualized associated with the bladder wall measuring 2.35 cm x 0.47 cm. This mass effect abuts the cystourethral junction, but there is no evidence of an overt obstruction at this time. Additionally, there is a dependent hyperechoic structure most consistent with a small bladder stone measuring 0.40 cm.

The left kidney has a normal shape and size (4.41 cm). Overall echogenicity is increased with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. Mild pyelectasia noted at 0.32 cm. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.51 cm) with mild pyelectasia at 0.23 cm. Overall echogenicity is increased with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect is visualized.

The right adrenal gland is normal in size measuring 0.38 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 (1.1 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 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 appear somewhat dilated and tortuous distally with no obvious focal obstruction noted. Proximally, the duct measures 0.78 cm.

Gastrointestinal
The stomach contains moderate shadowing ingesta. 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 mottled 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 at 0.15 cm.

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

- Irregular, mixed echogenic, mildly mineralized mass effect visualized in the trigone region of the urinary bladder – Primary differential is a transitional cell carcinoma, although other mass lesions are possible.

- Bilaterally hyperechoic kidneys with mild pyelectasia – Pyelectasia of the kidney(s)could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Prominent, mottled pancreas with prominent pancreatic duct – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Mildly dilated/tortuous bile duct – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other).

- Shadowing material visualized within the gastric lumen – Correlate with feeding history and abdominal radiographs. If the patient was fasted, this could represent a hairball or other shadowing ingesta.

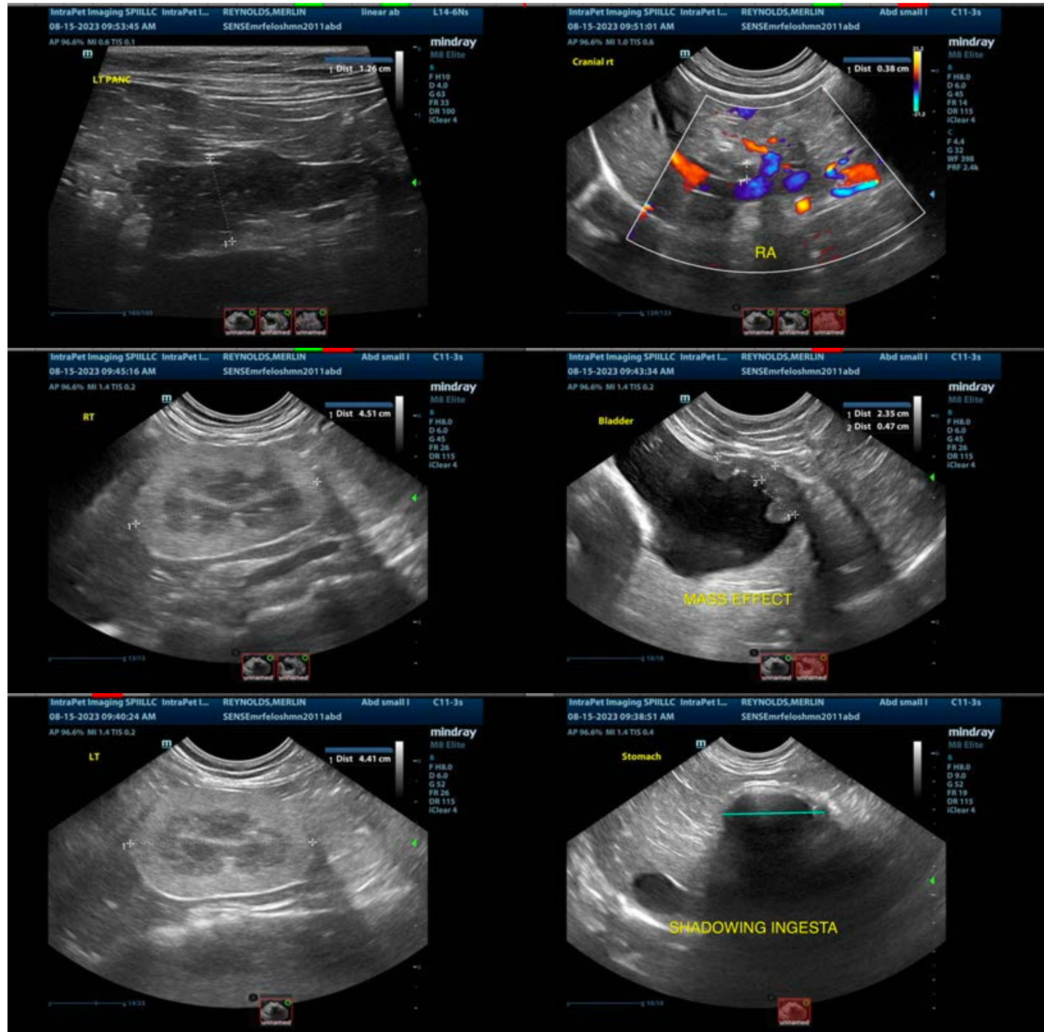
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a slightly mineralized mass effect visualized in the trigonal region of the urinary bladder. The appearance of this mass lesion is highly concerning for a neoplastic process such as a transitional cell carcinoma. If a free catch urinalysis is highly cellular, you could consider cytology on the sample. Alternately, a traumatic catheterization could be considered to obtain cells for cytologic evaluation. If a cytologic evaluation is not possible, surgical biopsies may be necessary. The location of this mass effect is near the cystourethral junction, which is concerning for eventual obstructive disease. If a cytologic diagnosis can be obtained, recommend consultation with a veterinary oncologist regarding treatment options and prognosis.

Both kidneys appear mildly hyperechoic with very mild pyelectasia. This could be secondary to the bladder mass effect or mild pyelonephritis.

The pancreas is prominent and mottled with minimal reactive surrounding mesentery. It appears this lesion is most consistent with remodeling and previous episodes of pancreatic inflammation, although mild current inflammation cannot be ruled out.

The significance of the prominent/mildly dilated bile duct is uncertain. Correlate with bloodwork. No focal obstruction is visualized at this time. Recommend continued monitoring with ultrasound.



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)
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