



PATIENT **PRESENTING CLINICAL SIGNS**

Callie James

History: Geriatric cat. History of hyperthyroidism and hypertension, on amlodipine and methimazole. Also history of intermittent UTI/cystitis. Presented 6/20 for declining appetite and increased frequency of vomiting: vomiting small piles of foamy fluid every day. Rec rads to assess vomiting, wt loss, r/o obvious GI abn or neoplasia. Rads revealed
 Abnormal PE/Chem/CBC/UA Results: PE: 0.3# wt loss since last exam in 12/22. Thin BCS 2/5. Afebrile, mildly dehydrated, Gr III/VI L syst murmur. Abdomen: kidneys small bilaterally, vy large bladder, stomach is palpably enlarged (r/o mass extending beyond ribcage), SI wall thickening. Systolic BP is very high today ~240 mmHg despite amlodipine tx given today. Chem all wnl CBC all wnl T4 2.3, wnl. Urine collected via cystocentesis--blood-tinged, IH UA reveals vy dilute sample with protein, tntc rbc's, no bacteria or wbc seen. Suspect FLUTD/idiopathic cystitis. Abd rads revealed (radiologist notes): The stomach is modestly dilated with fluid, gas, and large collection of radiopaque foreign particles, the latter more closely resembling bone fragments (normal food ingredient?). Smaller amounts of the radiopaque fragments are mixed with the modest amount of descending colonic stool that subjectively is well-formed and potential dense/inspissated. Small intestines are slightly distended with fluid/gas, Conclusion: Thorax/Abdomen: 1) Normal thorax. 2) Modestly dilated stomach (fluid, gas, radiopaque foreign particles). DDx: Chronic partial pyloric obstruction (mass, infiltrative wall thickening), gastritis/gastric atony. Foreign particles represent normal cat food ingredient (bone?), gravel/dirt. 3) Uniformly distended SI. DDx: Functional ileus/enteritis, diffuse wall thickening (GI lymphoma, IBD). Consider an AUS to further evaluate the abdomen and GI tract (wall layering, thickness). 4) Possible constipation/obstipation. 5) Small normal right kidney; small left kidney. DDx: Compatible with known CKD.

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed female

AGE

16 years

WEIGHT

6.74 lbs

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

IMAGING PERFORMED BY

Haley Harasimowicz

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Moderate mineralization was noted in the kidneys. One calculus was noted in the pelvis of the right kidney and may move to the urinary tract. The right kidney measured 3.08 cm. The left kidney measured 2.72 cm.

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Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.3 cm. The left adrenal gland measured 0.27 cm.

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Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted. The spleen measured 0.8 cm.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

Gastrointestinal

The **gastrointestinal** presentation revealed mild uniform prominence of the gastric mucosa as well as areas of "ropey" small intestinal wall with slight disruption of the normal 1:3 muscularis/mucosal ratio. The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic disease. No concerning lymphadenopathy was visible. No evidence of obstruction was present. Chronic inflammatory bowel disease is likely with a low possibility of an early neoplastic event such as lymphoma. Full thickness tissue biopsies via open laparotomy, ideally guided by intraoperative ultrasound in order to obtain the most representative mural sample, would be necessary to rule out this possibility.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

Two separate issues:

1. The patient is likely passing calculi contributing to the clinical signs, yet no obstructive disease is noted at this time.
2. Subjectively benign, yet prominent GI thickening, consistent with inflammatory bowel.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient may be passing calculi periodically from the kidneys to the lower urinary tract, yet no obstructive disease was noted at the time of the sonogram. Fecal test, diet change to hydrolyzed geriatric diet and low-dose Prednisolone trial is all recommended. Consideration for infectious agents



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should also be evaluated. There was no evidence of neoplasia. The kidneys appear to be 40-50% compromised, yet not end stage.

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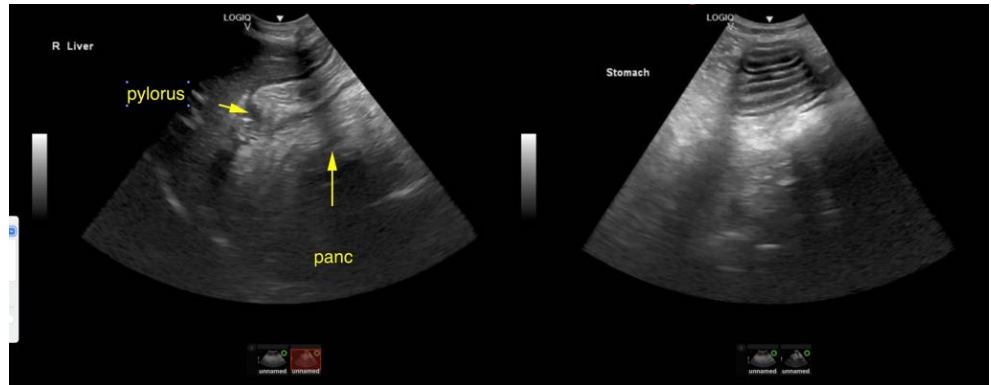
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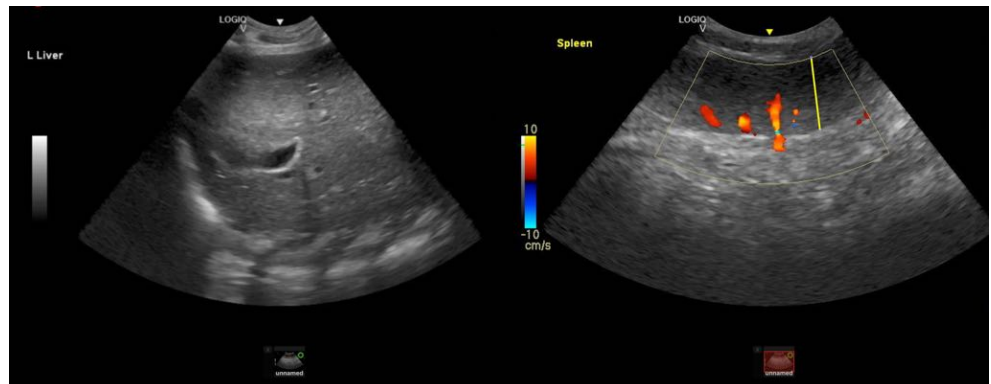


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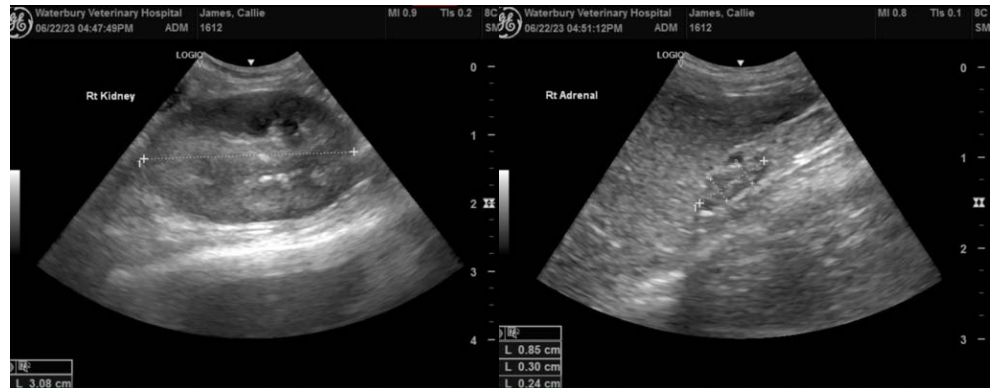
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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