



## PATIENT

Samantha Morrow

## SPECIES

Canine

## BREED

Havanese

## SEX

Spayed female

## AGE

15 years

## WEIGHT

10.4 lbs

## INTERPRETED BY

Dr. Alicia Angosto  
Guerrero

## IMAGING PERFORMED BY

Dr. Warner

## HOSPITAL NAME

VT-NH Veterinary  
Clinic

## REFERRING VET

Dr. Warner

## INVOICE

73505

## DATE

3/17/26

## PRESENTING CLINICAL SIGNS

- Samantha presented today for a bout of vomiting and diarrhea with blood. Episodes are waxing and waning (have occurred for years).
- Recently diagnosed with chronic kidney disease. Current episode started ~3/10, started lip licking, some vomiting (ate birdseed 3/9). She had a bout of colitis w/hematochezia the week before which resolved on it's own
- Started famotidine 1mg/kg PO BID x10d 3/13, added sucralfate 3/16 when it was reported symptoms had worsened over the weekend. Owners noted she was brighter with more appetite this AM (she was fasted, meds only)
- History of recurring UTI in the last year
- Adding in metronidazole and maropitant today
- 3/17 elevated BUN 56, amylase 471 (chem17) 2/26 elevated BUN 33 (kidney panel) 1/19 urine culture, no growth 1/15 Sr panel WBC 5.4 (low), SDMA 19 (high), BUN 44 (high). UA USG 1020, blood 50 Ery/uL, suspected presence of cocci

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The bladder lumen is normally distended, and the wall appears thin and smooth. The urine is anechoic. The bladder neck and proximal urethra have a normal appearance. There are no calculi and no sonographic evidence of inflammatory or neoplastic changes.

The left kidney is normal in shape and size, measuring 3.03×2.30 cm. Cortical thickness is 0.33 cm in the sagittal plane. The cortex is isoechoic relative to the hepatic parenchyma. The corticomedullary ratio is normal, and corticomedullary definition is preserved. A hyperechoic structure consistent with a nephrolith measuring up to 6.3 mm is identified (superimposition with adjacent structures makes precise localization difficult). There is no evidence of pyelectasia or hydronephrosis. Color Doppler shows a normal vascular pattern.

The right kidney is normal in shape and size (measurements not provided), with preserved corticomedullary definition and normal cortical echogenicity relative to the liver. A cortical cyst measuring 2.48×3.48 mm is identified. A hyperechoic structure consistent with a nephrolith measuring approximately 4.96 mm is present (superimposition with adjacent structures limits precise localization). There is no evidence of pyelectasia or hydronephrosis. Color Doppler shows a normal vascular pattern.

### Adrenal Glands

Both adrenal glands have normal shape and echogenicity. Dorsoventral diameters measured in the sagittal plane are as follows: left adrenal gland 0.45 cm at the cranial pole and 0.48 cm at the caudal pole; right adrenal gland 0.47 cm at the cranial pole and 0.47 cm at the caudal pole.

### Spleen

Splenic thickness is 0.85 cm. The parenchyma demonstrates normal echogenicity and a fine, homogeneous echotexture, without focal abnormalities. The splenic capsule is smooth and regular.



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## Liver

The liver is subjectively normal in size, with sharp edges and a regular contour. The hepatic parenchyma is homogeneous and isoechoic relative to the falciform fat. A small hyperechoic focus measuring 0.71×0.78 cm is identified. No hepatic lymphadenopathy is observed.

The gallbladder lumen is moderately distended. The wall is thin, and the contents show a mild to moderate amount of biliary sludge. No dilation of the cystic duct or common bile duct is observed.

## Gastrointestinal

The stomach is partially empty, with a small amount of residual digested ingesta. Gastric wall thickness is 2.36 mm, with preserved wall layering. The pylorus measures 5.39 mm.

The duodenum measures 4.15 mm. The jejunum measures 3.02 mm, with mucosa 1.72 mm (other layers not measured). The ileum measures 1.55 mm, with mucosa 0.59 mm and submucosa 0.38 mm; muscularis propria measurement is not provided. Wall layering is preserved throughout. No signs of neoplasia, overt inflammation, ileus, or foreign material are identified.

Colon: ascending colon 0.66 mm with gas; transverse colon 0.65 mm with small amounts of pasty fecal material; descending colon 0.59 mm with small amounts of soft fecal material.

## Pancreas

The evaluated pancreatic regions do not show evidence of overt inflammation or focal lesions.

## Peritoneal Cavity

There is no sonographic evidence of abdominal effusion, peritonitis, or lymphadenomegaly. The region of the iliac trifurcation appears normal.

## ULTRASONOGRAPHIC FINDINGS

### PRIMARY FINDINGS

- Bilateral non-obstructive nephroliths.

### SECONDARY FINDINGS

- Small right renal cortical cyst.
- Mild to moderate biliary sludge.
- Small focal hyperechoic hepatic lesion (0.71×0.78 cm).



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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The gastrointestinal tract does not show ultrasonographic features supportive of moderate to severe inflammatory or infiltrative disease. Wall thicknesses are within normal limits, layering is preserved, and there is no evidence of focal lesions or obstruction. These findings make lymphoma or other infiltrative neoplasia unlikely on imaging. However, ultrasound lacks sensitivity for mild or functional enteropathies, and therefore does not exclude chronic inflammatory enteropathy (including food-responsive or antibiotic-responsive disease), which remains the most plausible explanation given the chronic, waxing-waning clinical history with episodes of hematochezia.

Renal findings (bilateral nephrolithiasis and a small cortical cyst) are most consistent with chronic, age-related changes. The absence of pelvic dilation or hydronephrosis indicates that the nephroliths are non-obstructive at this time. Despite the patient's documented azotemia and elevated SDMA, the preserved renal architecture suggests early or moderate chronic kidney disease rather than advanced structural degeneration.

The small, well-defined hyperechoic hepatic focus is most consistent with a benign lesion such as nodular hyperplasia or focal lipidosis. In the absence of additional hepatic changes, this finding is unlikely to be clinically relevant. Mild to moderate biliary sludge is present and is considered a nonspecific finding, commonly associated with gallbladder hypomotility or fasting, and without current evidence of biliary obstruction or clinically significant hepatobiliary disease.

Overall, the imaging findings are most consistent with chronic enteropathy, with concurrent incidental renal and hepatobiliary changes.

### Recommendations

- During episodes of hematuria, perform urinalysis with sediment examination to assess for crystalluria, which could support passage of material from the upper urinary tract (given bilateral nephrolithiasis). Consider urine culture if indicated.
- For the gastrointestinal signs, a stepwise approach is appropriate: dietary trial (highly digestible or novel protein), followed by microbiome-directed therapy if needed.
- A serum gastrointestinal panel (cobalamin, folate, and canine pancreatic lipase immunoreactivity) is reasonable in this context to further characterize chronic enteropathy and screen for concurrent pancreatic involvement.

Final diagnostic and therapeutic decisions should be made by the attending veterinarian, based on the complete clinical context.



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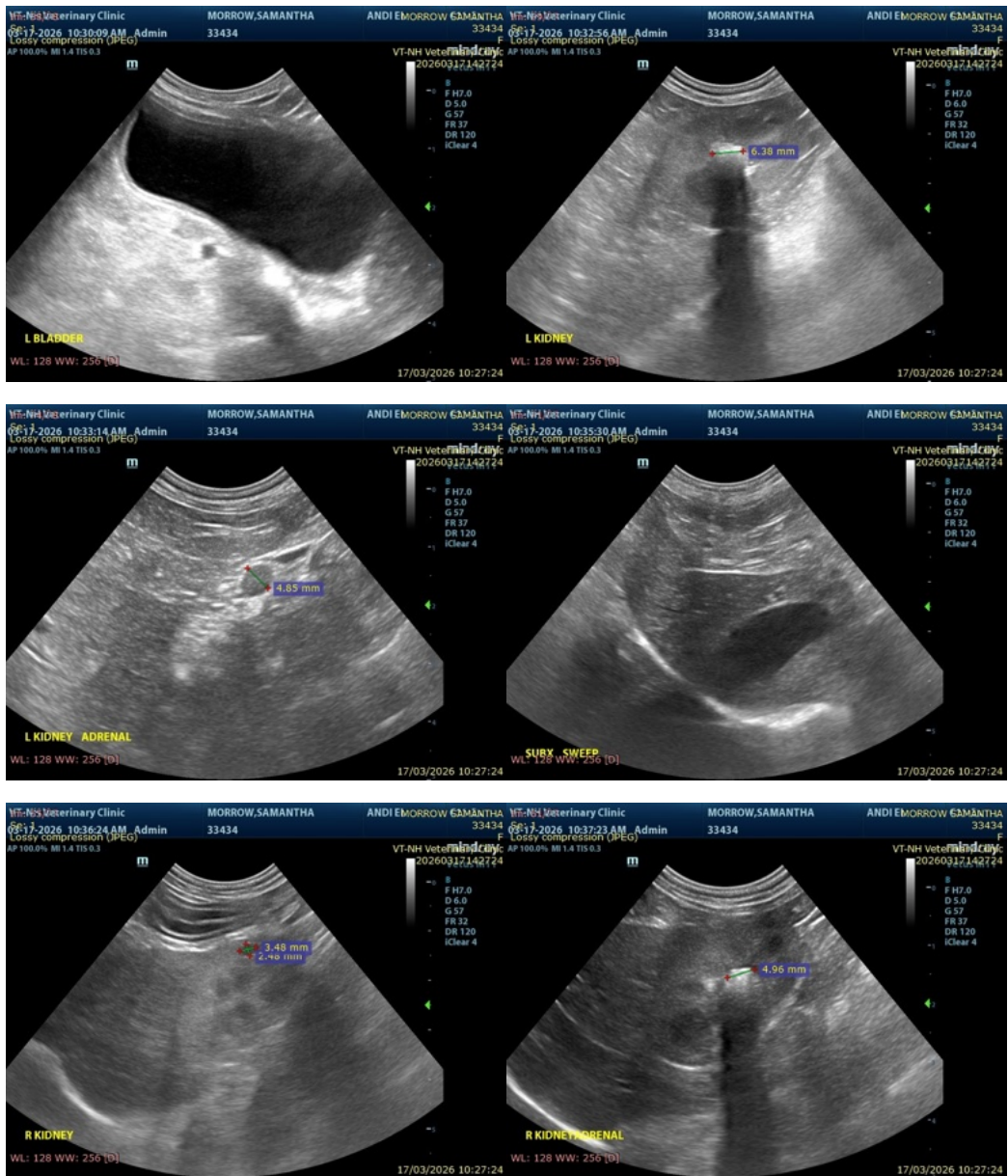
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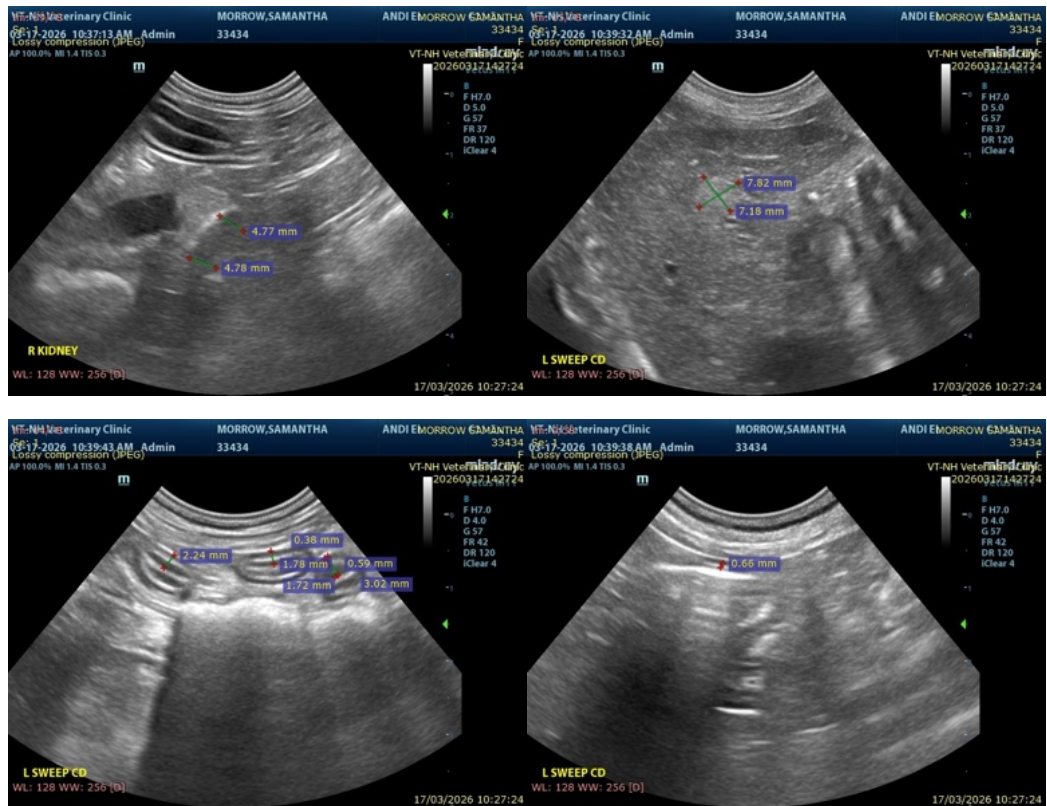
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Alicia Angosto Guerrero, DMV, PgDip, MSc.

MV Esp Ultrasound in Domestic and Wild Animals

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