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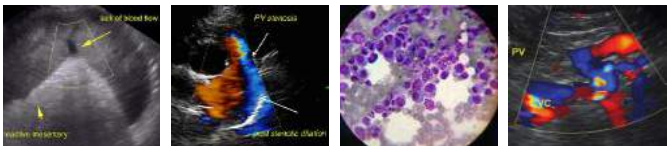


**PATIENT**

Scout Hopkins

**SPECIES**

Canine

**BREED**

Terrier Cross

**SEX**

Spayed Female

**AGE**

6 years

**WEIGHT**

14.1 kg

**INTERPRETED BY**

Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)

**IMAGING PERFORMED BY**

Dr. Markland

**HOSPITAL NAME**

Island Mobile Pet VS

**REFERRING VET**

Central Island Veterinary EH

**INVOICE**

11659kk

**DATE**

8/17/21

## PRESENTING CLINICAL SIGNS

History: Presented to emergency on 8/16 for swollen and painful abdomen. Has been treated for about a week by rDVM for ADR with diarrhea. No vomiting. Laboratory results from rDVM include high ALP, mildly elevated spec cPL, and proteinuria (strip) with isosthenuria. A urine protein:creatinine ratio is pending. Scout is currently being treated with Clavaseptin for possible E. coli (history of this) and meloxicam. Physical exam confirmed abdominal pain. A 3/6 murmur was noted. Radiographs showed normal heart dimensions and pulmonary vasculature. No obstructive pattern was noted in the gi tract. Scout was given methadone for pain. Relevant laboratory results from the emergency hospital are listed below.

Abnormal PE/Chem/CBC/UA Results: ALP=1432 (23-212) Abnormal cPL (snap test).

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is not visualized in its entirety, in the visualized portions, the bladder wall is normal in thickness with a smooth mucosal surface. The lumen is moderately distended. Luminal contents are mostly anechoic. No cystic calculi are seen. The region of the trigone and the visible portion of the proximal urethra are normal.

The left kidney is normal size (5.57 cm in length); with a normal shape and smooth peripheral contours. There is moderate loss of corticomedullary distinction. Hyperechoic, shadowing diverticular foci are also seen. Trace pyelectasia is present. There is no evidence of infarcts or hydroureter.

The right kidney is normal size (5.78 cm in length) with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and there are pinpoint, hyperechoic, cortical foci. There is moderate loss of corticomedullary distinction. Hyperechoic, shadowing diverticular foci are also seen. Trace pyelectasia is present. There is no evidence of infarcts or hydroureter.

### *Adrenal Glands*

The left adrenal gland is normal size (0.54 cm at cranial pole) (0.55 cm at caudal pole) (2.18 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

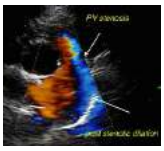
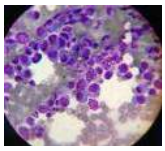
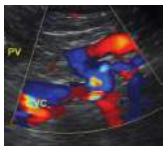
The right adrenal gland is normal size (0.39 cm at cranial pole) (0.40 cm at caudal pole) (2.02 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

### *Spleen*

The spleen is normal in size (1.62 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

### *Liver*

The liver is subjectively prominent in size with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely heterogeneous with numerous, varying sized, ill-defined, hypoechoic nodules/areas seen throughout the organ. A 1.59 cm irregular, well-defined, hypoechoic to slightly heterogenous nodule is observed on the left side. The lesion causes mild capsular expansion.

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Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is normal in thickness. A moderate to large amount of aggregated, echogenic, suspended sludge in a stellate pattern is observed within the lumen. The cystic and common bile ducts are normal/not seen.

### *Gastrointestinal*

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

### *Pancreas*

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

### *Free Abdomen*

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

## ULTRASONOGRAPHIC FINDINGS

**Primary Findings:**

- The gall bladder changes are consistent with fully-formed mucocele. The hepatic parenchymal changes are non-specific and could be consistent with benign pathology (i.e., regenerative nodular hyperplasia with concurrent vacuolar hepatopathy and/or age-related remodeling). Alternatively, infiltrative neoplasia may be present.
- The pancreatic changes may be a normal variant for this patient or could be consistent with mild, chronic pancreatitis. Correlation with clinical findings is recommended.

**Secondary Findings:**

- The bilateral renal changes are consistent with chronic interstitial nephrosis/nephritis with dystrophic mineralization and mild pyelectasia.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

1. Consider a fine needle aspirate of the liver (if clotting status is appropriate). A 25-guage needle should be used.

2. If an aggressive approach to the gall bladder mucocele is desired, consider referral to a board-certified veterinary surgeon to discuss cholecystectomy and liver biopsy. If a more conservative approach is desired, medical therapy with Ursodiol is recommended with serial sonographic monitoring (i.e., every 4-6 weeks of the gall bladder) to assess for progression. Empirical treatment for secondary cholecystitis is also recommended as this is a common sequela of mucoceles. *Note: There is a risk of gall bladder rupture with subsequent bile/septic peritonitis with fully-formed mucoceles.

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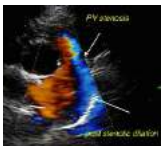
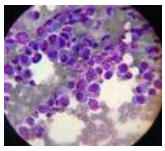
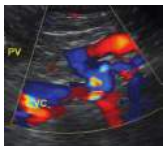

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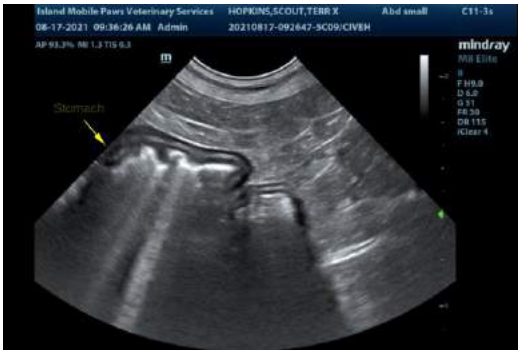



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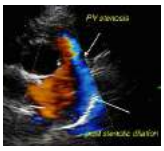
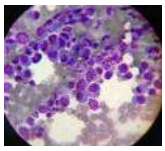
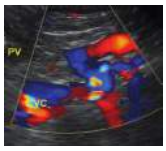

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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)
Andrea.nicastro@sonopath.com