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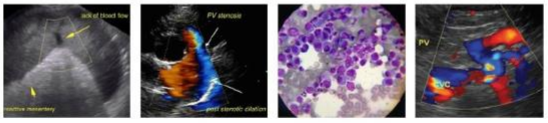


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

**PATIENT**

Cooper Howes

**SPECIES**

Canine

**BREED**

Mixed

**SEX**

Neutered Male

**AGE**

11 Years

**WEIGHT**

40 Pounds

**INTERPRETED BY**

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

**IMAGING PERFORMED BY**

oetitia Saint-Jacques, RVT LVT

**HOSPITAL NAME**

Donner Truckee VH

**REFERRING VET**

Dr. Vannini

**INVOICE**

15032

**DATE**

5/2/22

## PRESENTING CLINICAL SIGNS

History: Diarrhea for several days with a hx of chronic intermittent diarrhea over the last 1-2 yrs. Patient was diagnosed with suspected Helicobacter infection (gastric wall thickening on AUS) in 5/2021 and signs (vomiting, diarrhea, lethargy) resolved with treatment. Since finishing this treatment, diarrhea restarted and has been intermittent with a substantial flare up over th last week. Diarrhea appears to be small bowel (infrequent with no blood or mucus). Patient is currently on cottage cheese, rice, turkey, and kibble diet. Good appetite/energy. No C/S/V. NO weight loss. O declined BW opted for AUS first. Has financial concerns.? HP recurrence?

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the residual prostate appeared normal and free of pathology.

No overt pathology in the area of the iliac trifurcation. A visualized medial iliac node exhibited normal size, shape and echogenicity without evidence of inflammatory or neoplastic criteria, measuring 0.54 cm in width.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 7.2 cm in length. The right kidney measured 5.5 cm in length.

### *Adrenal Glands*

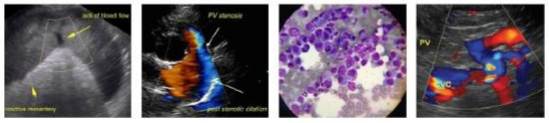
The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.63 cm width in the cranial pole and 0.53 cm width in the caudal pole. The right adrenal gland measured 0.80 cm width in the caudal pole.

### *Spleen*

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Variably sized, asymmetrical, nonuniform hypoechoic nodules were present throughout the cranial to caudal parenchyma. An example of splenic nodule measured 2.5 cm in diameter. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory or neoplastic changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas**.**

### *Liver*

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to





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benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non distended in size with primarily anechoic content with mild congealed gallbladder debris, primarily in the gallbladder neck. No evidence of gallbladder or peripheral gallbladder inflammation. The cystic duct and common bile ducts were normal without evidence of dilation.

### *Gastrointestinal*

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material. The pylorus wall measured 0.46 cm.

The small intestine presented intact yet subjective prominent wall layering with segmental propensity for mildly prominent to echogenic submucosa. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material. The duodenum wall measured 0.55 cm. The jejunum wall measured 0.31 cm. The ileocolic wall measured 0.46 cm.

Normal visible colon wall layers were present with semi-formed to soft feces in lumen. The descending colon wall measured 0.34 cm.

### *Pancreas*

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

### *Free Abdomen*

Focal to intermittent, mildly prominent to enlarged mid abdominal mesenteric lymph nodes were present. The lymph nodes were essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). An example of lymph node size measured 0.34 cm width.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

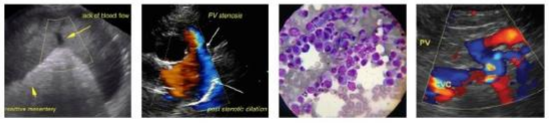
- Sonographically unremarkable stomach
- Intact yet mild prominent small bowel walls with subjective propensity to mildly prominent to echogenic segmental submucosa
- Intermittent benign/reactive mesenteric and focal medial iliac lymph nodes

### Secondary Findings

- Nonspecific yet likely benign splenic nodules, consistent with probable benign myelolipomas
- Mild age-related kidneys
- Mild gallbladder debris (non-mucocele)

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although nonspecific, the subtle to minor intestinal wall changes, including propensity for mildly prominent to echogenic submucosa, which tends to be more affected in dogs with underlying intestinal disease, may suggest an inflammatory process (i.e., inflammatory bowel disease). Additional





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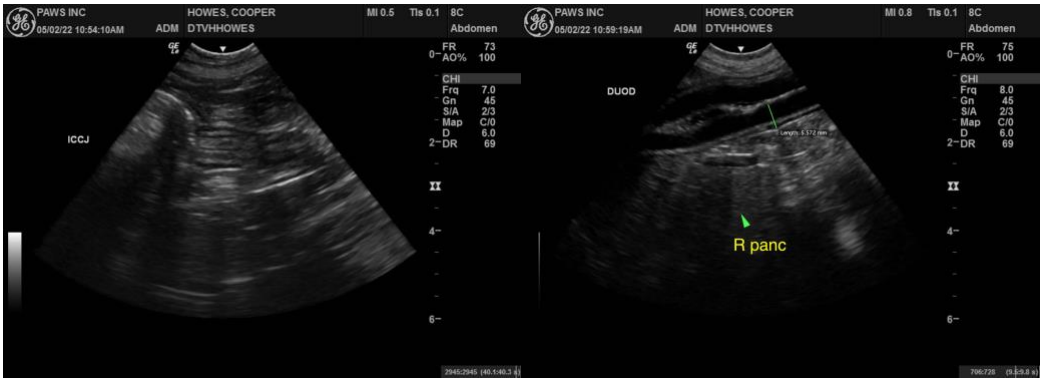
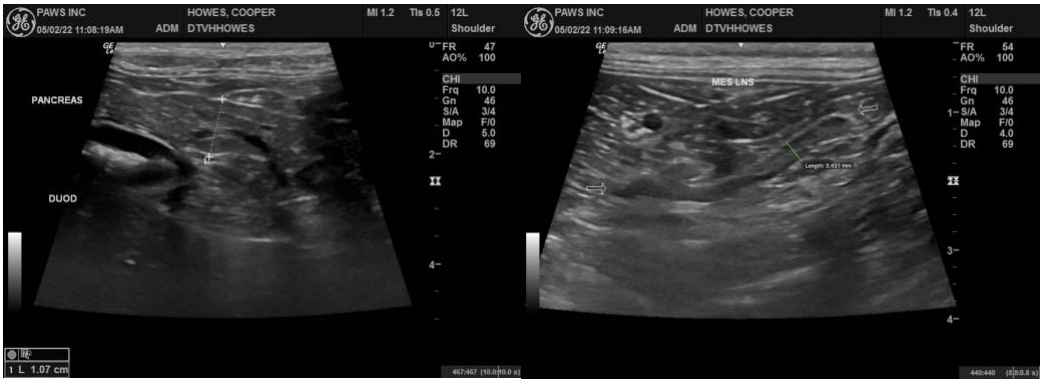
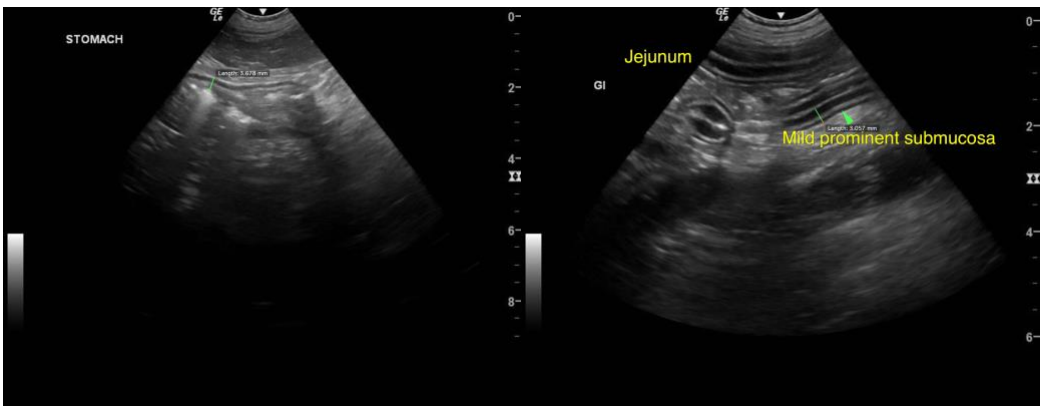
considerations in dogs with chronic to intermittent gastrointestinal signs may include mild to low-grade pancreatitis (which may present as sonographically normal), dysbiosis, dietary intolerance/food hypersensitivity, occult parasitism, or intestinal neoplasia (unlikely in this case). Given the previous positive response to empirical therapy, dietary intolerance/food hypersensitivity, dysbiosis or IBD may be considered top differential diagnoses. Further assessment may include a GI panel to include PLI/TLI/Cobalamin/Folate +/- fresh fecal analysis to rule out parasitic ova/Giardia if not recently done.

Empirically, a limited antigen or hydrolyzed diet trial with potential long term dietary therapy, prophylactic deworming (Panacur 50 mg/kg SID x 5 consecutive days with repeat protocol in 3 weeks even if fecal testing is negative), high colony count probiotic (Proviable or Visbiome) +/- empirical antibiotic trial and as needed gastrointestinal support with assessment of clinical response would be reasonable. Intestinal biopsies may be indicated if GI signs continue despite empirical therapy.



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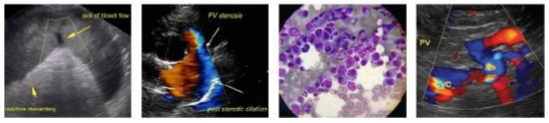

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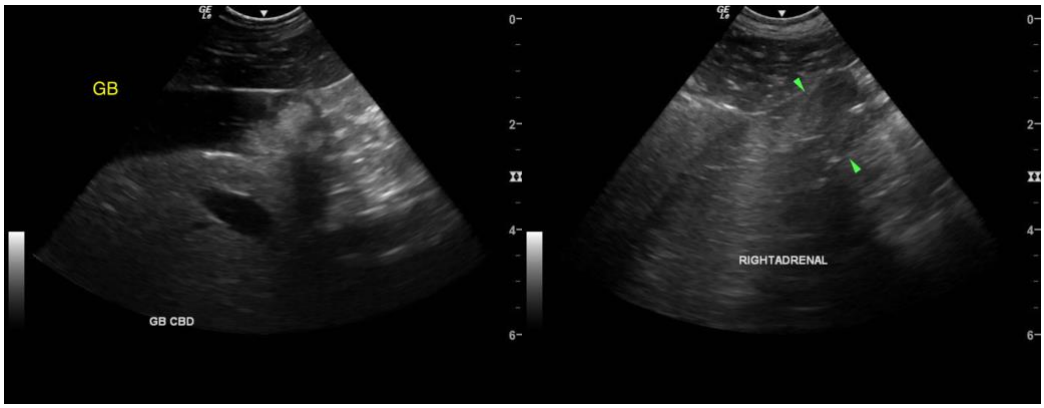


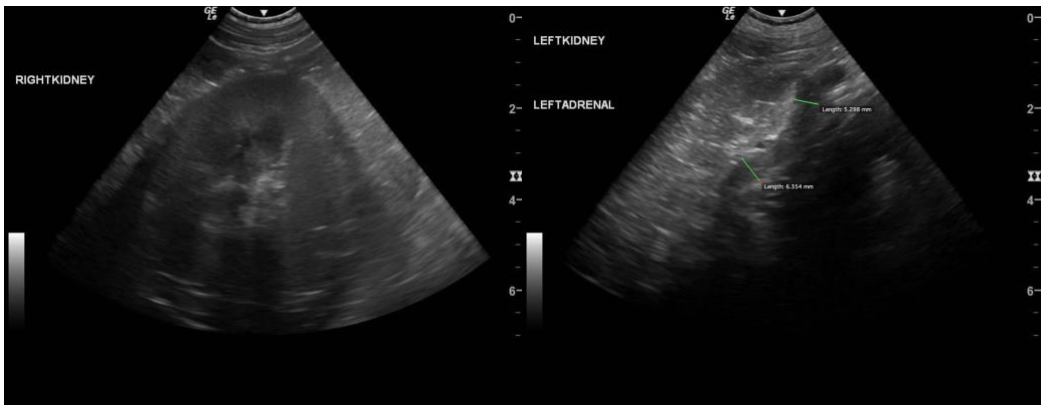


**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**
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