



**PATIENT**

Sadie Hunt

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Spayed Female

**AGE**

10 ½ years

**WEIGHT**

24 lbs

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

Dr. Mengine

**INVOICE**

30717

**DATE**

5/24/22

**PRESENTING CLINICAL SIGNS**

History: Hypoalbuminemia noted on pre-anesthetic bloodwork for dental - Alb 1.9, Glbs low-normal at 2.4, SDMA 18, with normal BUN / Creat ( 21 1.3) - else normal CBC / Chem, Urine SpGr 1.037, no proteinuria.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra. A trivial amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

*Kidneys*

The **left** kidney measures 4.26 cm. The capsule is smooth. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, as well as a nephrolith (4.4 mm), noted o the transverse view. There is no evidence of or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.46 cm. Findings are similar to the left kidney.

*Aortic bifurcation/trifurcation*

No abnormalities observed.

*Adrenal Glands*

The **left** adrenal gland measures 0.70 cm at the cranial pole, 0.45 cm at the caudal pole. The cranial pole is considered mildly enlarged for a dog of Sadie's stature. On further evaluation, a subtle, well-delineated, slightly hyperechoic nodule, is observed at the cranial pole. There are no obvious signs of malignancy. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.68 cm at the cranial pole, 0.79 cm at the caudal pole. The gland is enlarged and has lost its "kidney bean" shape. No abnormalities are noted with the gland's overall echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

*Spleen*

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

*Liver*



<b>PATIENT</b>	There are no obvious signs of hepatomegaly (or microhepatica) and its borders are smooth, but mildly rounded. A diffuse, mildly coarse or granular echotexture is observed. No abnormalities are observed with its echogenicity, i.e., it is hypoechoic to the spleen. Focal lesions are not observed. Mild perivascular cuffing is observed, which is consistent with myelolipomas. No abnormalities are observed with the hepatic veins.
Sadie Hunt	
<b>SPECIES</b>	The gallbladder wall is within normal limits in thickness and echogenicity. A trivial amount of echogenic material is present within the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.
Canine	
<b>BREED</b>	
Mix	<b>Gastrointestinal</b>
<b>SEX</b>	The gastric wall is within normal limits in thickness and the wall layers are well defined, as are the rugal folds. No obvious abnormalities are observed with its peristalsis.
Spayed Female	The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Subjectively, the mucosa and submucosa of a few loops of jejunum are mildly prominent and mild mucosal fogging and stippling are observed, in addition to hyperechogenicity of the surrounding mesentery. Abnormally dilated loops of bowel are not observed.
<b>AGE</b>	The colonic wall is not thickened and mural detail is considered normal, however, the submucosa is, subjectively, mildly thicker than normal.
10 ½ years	
<b>WEIGHT</b>	There are no obvious signs of a mass, foreign body, or an obstruction in the gastrointestinal tract.
24 lbs	
<b>INTERPRETED BY</b>	<b>Pancreas</b>
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	No overt abnormalities are observed. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.
<b>IMAGING PERFORMED BY</b>	<b>Other</b>
Dr. Mengine	<b>Lymph nodes</b>
<b>HOSPITAL NAME</b>	No abnormalities are observed
Stoney Creek VH	<b>Abdominal effusion</b> is not visualized.
<b>REFERRING VET</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
Dr. Mengine	<ul style="list-style-type: none"> <li>The <b>gastrointestinal changes</b> are non-specific and somewhat subjective. However, stippling and fogging of the mucosa, as well as a prominent submucosa, as well as a hyperechoic mesentery are signs of inflammation. Differential diagnoses, such as, <i>inflammatory bowel disease</i> and a <i>secondary (emerging) protein losing enteropathy</i>, are suspected given the globulins at the low end of the normal reference range. Evaluation of Sadie's history for signs of gastroesophageal reflux disease (GERD) and pica is recommended.</li> </ul>
<b>INVOICE</b>	
30717	
<b>DATE</b>	
5/24/22	



**PATIENT**

Sadie Hunt

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Spayed Female

**AGE**

10 ½ years

**WEIGHT**

24 lbs

- **Bilateral adrenomegaly** for a dog of Sadie's stature. Bilateral adrenomegaly may be due to adrenal hyperplasia secondary to chronic illness, which is a form of stress. Pituitary dependent hyperadrenocorticism is also possible. The **nodule at the cranial pole** of the **left adrenal gland** may be due to a benign adenoma or myelolipoma. It does not show obvious signs of malignancy. Hyperadrenocorticism (HAC) is considered less likely based on the absence of clinical signs, and a decision to pursue further diagnostics should be correlated with clinical signs, rather than sonographic findings. i.e., an ACTH stimulation test or low dose dexamethasone suppression test is not necessary if a patient is not demonstrating clinical signs of HAC, however, it is always prudent to evaluate an arterial blood pressure and a urine protein: creatinine ratio.
- The **hepatic** echotexture is suggestive of a reactive hepatopathy. There are no obvious signs of hepatitis, cholangitis/cholangiohepatitis, or neoplasia.
- The **renal changes** are suggestive of age-related degeneration, as well as mineralization. The latter may be related to age, breed and diet.
- The free floating sediment within the lumen of the **urinary bladder** is most likely composed of mucus, crystalline material and exfoliated cells. The debris is likely clinically insignificant given the lack of inflammatory changes to the bladder wall, however, findings should be correlated with clinical signs and a urinalysis.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Suggestions include the following

- Arterial blood pressure and a urine protein: creatinine ratio.
- Evaluation of Sadie's history for signs of gastroesophageal reflux disease (GERD) and pica is recommended.
- Deworming, such as fenbendazole, even if she receives monthly heartworm prevention.
- Diet trial (veterinary prescription brand hypoallergenic, hydrolyzed or novel protein that is also restricted in phosphorus if renal function is becoming affected based on serum biochemical profile and SDMA results).
- If signs of GERD, 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO q12h)
- TLI, serum cobalamin, folate, +/- spec fPL, to exclude malabsorptive and maldigestive diseases, including exocrine pancreatic insufficiency, depending on response to the above suggestions.
- Supplementation with cobalamin may also be considered, in addition to
- Administration of a synbiotic (product that contains both a pre and probiotic)
- Endoscopy and biopsies of the upper and lower GI tract diet, if no response to deworming and diet trials.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

Dr. Mengine

**INVOICE**

30717

**DATE**

5/24/22



**PATIENT**

Sadie Hunt

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Spayed Female

**AGE**

10 ½ years

**WEIGHT**

24 lbs

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

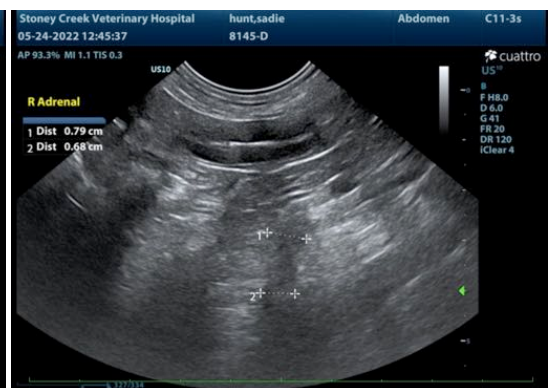
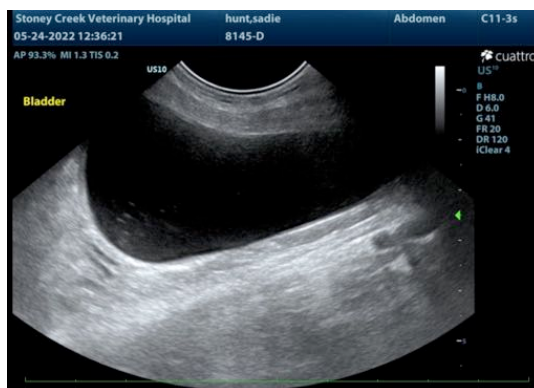
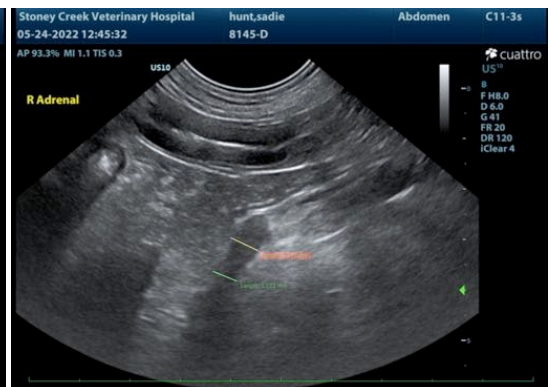
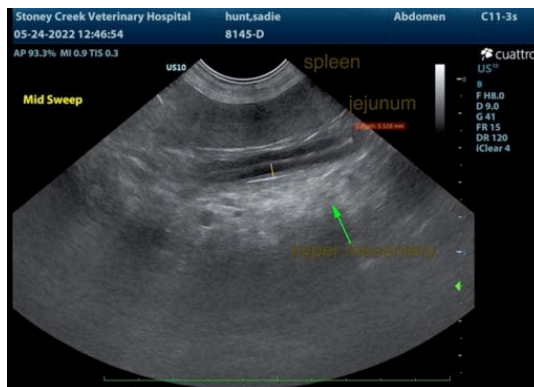
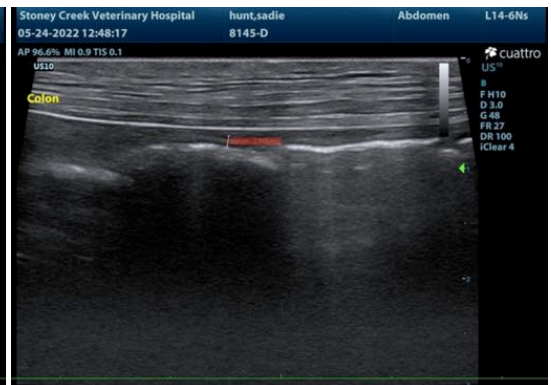
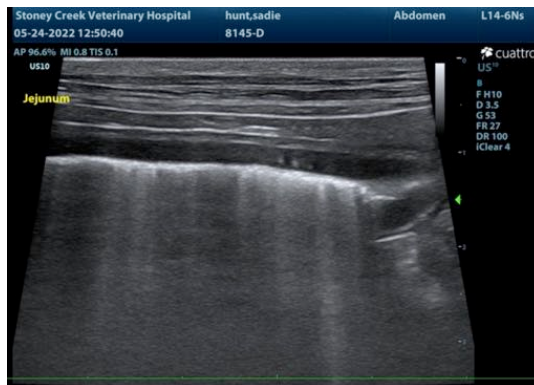
Dr. Mengine

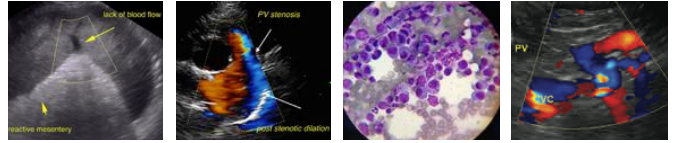
**INVOICE**

30717

**DATE**

5/24/22





**PATIENT**

Sadie Hunt

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Spayed Female

**AGE**

10 ½ years

**WEIGHT**

24 lbs

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

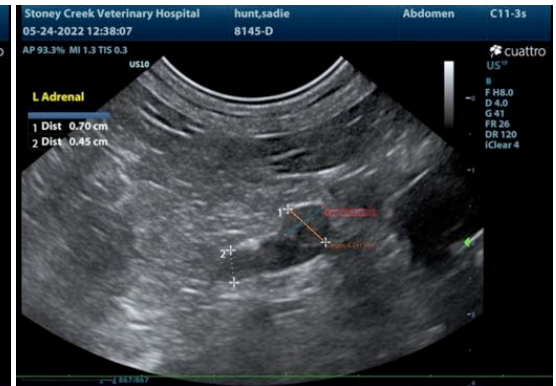
Dr. Mengine

**INVOICE**

30717

**DATE**

5/24/22



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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)