



**PATIENT PRESENTING CLINICAL SIGNS**

Pepper Jewett Vomiting and inappetence over one week. High ALP, microalbuminuria.  
On Cerenia, Entyce, Mirtazapine

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Canine

**Urinary System**

**BREED** The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 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.

Mixed

**SEX** 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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 6.4 cm in length. The right kidney measured 6.2 cm in length

FS

**AGE**

12yr The area of the aortic trifurcation was free of pathology.

**Adrenal Glands**

**WEIGHT** The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.63 cm width at the caudal pole and 0.68 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.57 cm width at the caudal pole and 0.80 cm width at the cranial pole.

41lb

**INTERPRETED BY**

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

**Spleen**

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multifocal, well-defined, symmetrical, hyperechoic nodules were present throughout the cranial to caudal parenchyma. 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. An example of a nodule measured 0.43 cm in diameter.

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Falmouth Animal Hospital

**Liver/Gallbladder**

The liver presented enlarged in size. A solitary mildly irregular non-homogenous intraparenchymal mass was present in the mid to right liver adjacent to the gallbladder measuring ~ 4.3 cm diameter. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

**REFERRING VET**

Dr. Jewett

**INVOICE**

12548ag

The gallbladder was non-distended in size with primarily anechoic luminal content and minor echogenic luminal debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.

**DATE**

12/26/2022

**Gastrointestinal**



**PATIENT**

Pepper Jewett

The stomach presented moderate variable thickened walls with indistinct to loss of discernable wall layer detail. The lumen of the stomach contained moderate retained anechoic fluid with no signs of ileus, obstruction or foreign material. The gastric body wall measured up to 2.2 cm in width.

**SPECIES**

Canine

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. Minor segmental duodenojejunal mucosal specking was present with mild non-obstructive ileus. The lumen of the small intestine was empty with no signs of obstruction or foreign material. The duodenum wall measured 0.45 cm width. The jejunum wall measured 0.35 cm width.

**BREED**

Mixed

Normal visible colon wall layers were present with apparent formed feces in lumen.

**SEX**

FS

**Pancreas**

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**AGE**

12yr

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

Mild regional perigastric hyperechoic mesentery was present.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

41lb

- Moderate to variably thickened stomach walls with indistinct to loss of gastric wall layer detail, concurrent mild gastric metabolic to paralytic stasis
- Overtly normal small intestine, potential for concurrent enteropathy possible
- Hepatic parenchymal remodeling with non-homogeneous parenchymal mass
- Minor gallbladder debris
- Moderate chronic renal changes with cortical infarcts

**INTERPRETED BY**

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

**Secondary**

- Benign splenic nodules-consistent with benign myelolipomas, previous infarction or possible emerging mineralization

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Inflammatory vs infiltrative neoplastic gastropathy are both potentials although concern for infiltrative gastric mural neoplasia is warranted. Further assessment may include endoscopic or surgical biopsies for histopathology. A GI panel to include PLI/TLI/Cobalamin/Folate is recommended to assess for occult small intestinal disease as a contributing factor. Assuming normal clotting status and using a 25g needle, a liver parenchyma and liver mass FNA for screening cytology is warranted for further assessment. Empirically gastric protectant protocol, canned to slurry hydrolyzed diet with avoidance of dry food and coverage for helicobacter with sonographic monitoring of the stomach would be a more conservative approach. A guarded prognosis is indicated.

**HOSPITAL NAME**

Falmouth Animal Hospital

**REFERRING VET**

Dr. Jewett

**INVOICE**

12548ag

**DATE**

12/26/2022



**PATIENT**

Pepper Jewett

**SPECIES**

Canine

**BREED**

Mixed

**SEX**

FS

**AGE**

12yr

**WEIGHT**

41lb

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Falmouth Animal  
 Hospital

**REFERRING VET**

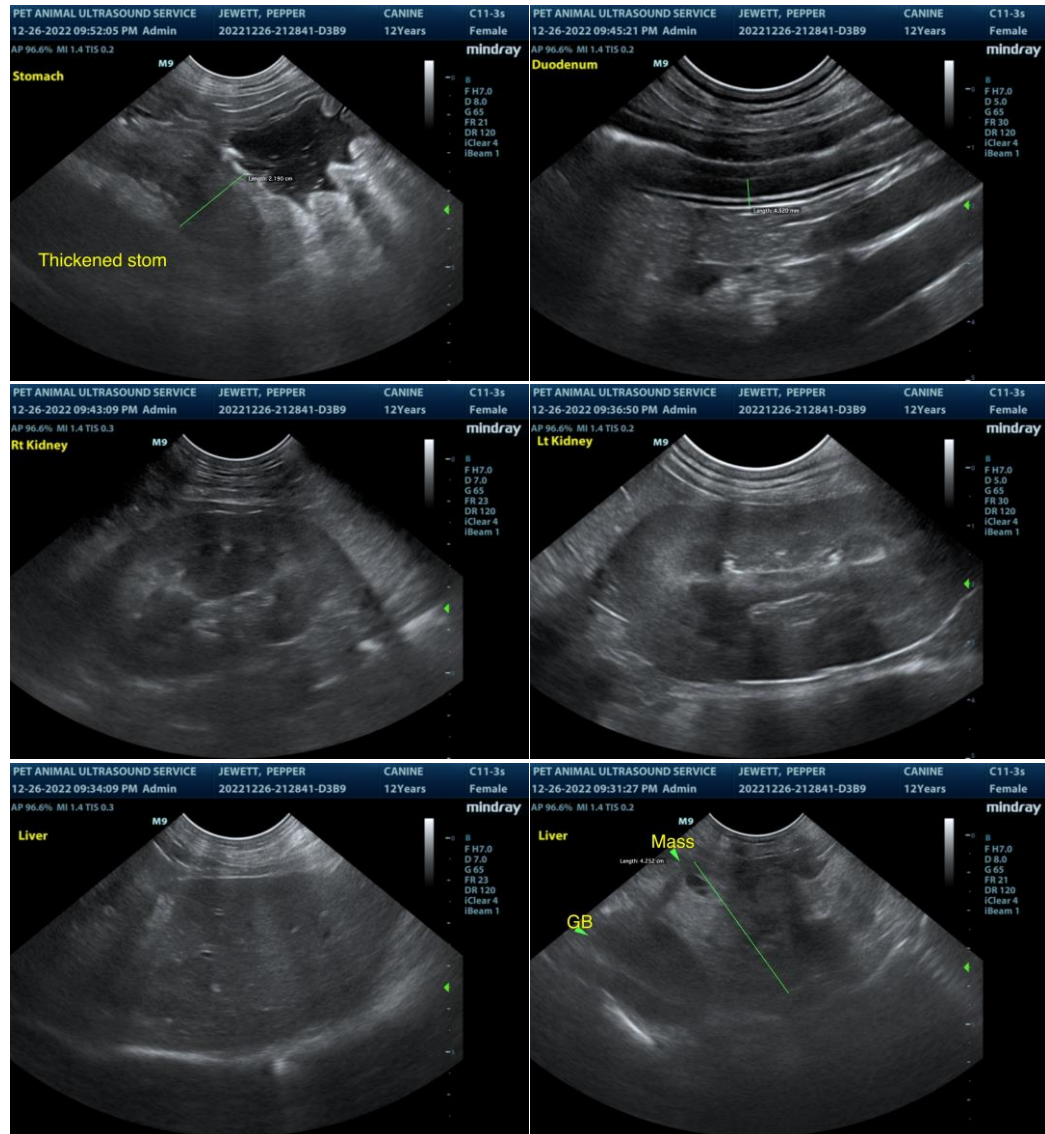
Dr. Jewett

**INVOICE**

12548ag

**DATE**

12/26/2022





**PATIENT**

Pepper Jewett

**SPECIES**

Canine

**BREED**

Mixed

**SEX**

FS

**AGE**

12yr

**WEIGHT**

41lb

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Falmouth Animal  
 Hospital

**REFERRING VET**

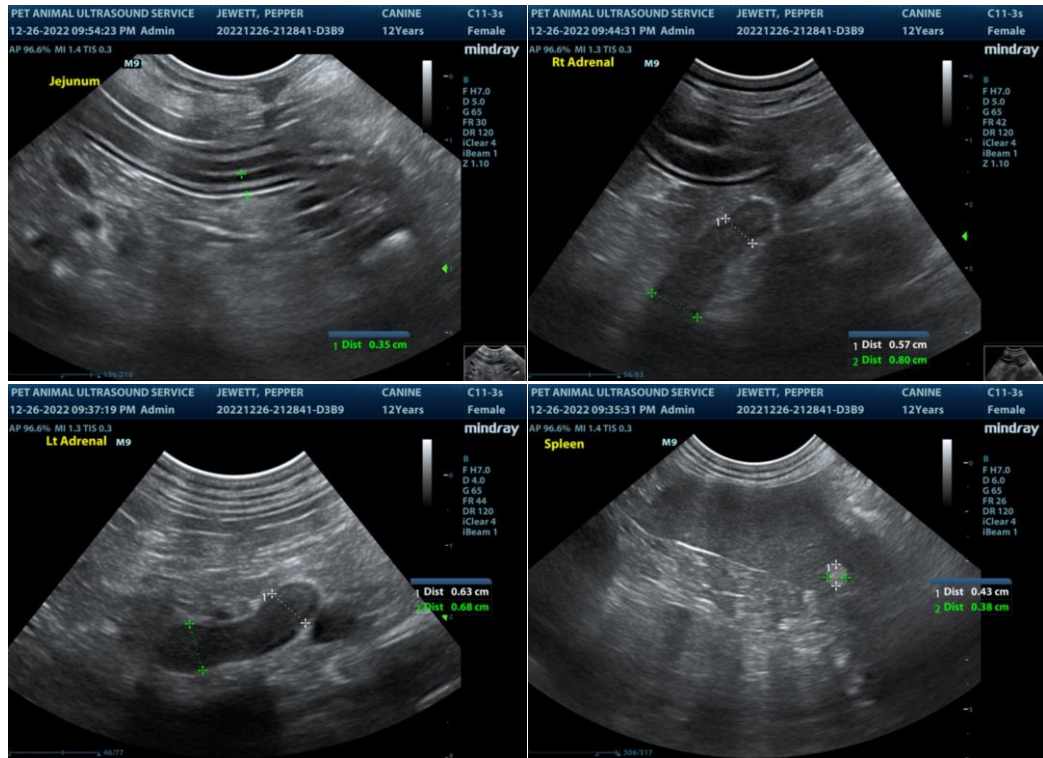
Dr. Jewett

**INVOICE**

12548ag

**DATE**

12/26/2022



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.

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

info@SonoPath.com