



**PATIENT PRESENTING CLINICAL SIGNS**

Shirley Doweiko

History of difficult to manage epilepsy for many years. Currently well-controlled on Purina NC, Keppra 125 mg TID, KBrovect 250 mg BID, and Phenobarbital 32.4 mg BID. Presented last week for vomiting and hyporexia. No diarrhea. Owner had given egg salad, which based on labwork showed mild pancreatitis. Radiographs also taken since patient has a history of dietary indiscretion. Received SQ fluids and cerenia with full resolution. Subsequently developed diarrhea and hyporexia. WBC count has continually climbed, but patient remains afebrile. Baytril and unasyn given without any change. Discussed that this could be inflammatory disease with concern for GME and steroids were begun. Patient declined on one dose of dexamethasone with WBC increasing from 42K to 53K. Added Zosyn q16h and patient became brighter with WBC 37K. ALP 308; normal UA, BCB 37K. Chest radiographs unremarkable.

**SPECIES**

Canine

**BREED**

Shih Tzu X

**SEX**

Spayed Female

**AGE**

9 Years

**WEIGHT**

12 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Wood River AH

**REFERRING VET**

Dr. Leah Fischer

**INVOICE**

37851

**DATE**

5/22/22

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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

Normal size and margination was 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. Minor pyelectasia noted in both kidneys. The left kidney measured 4.1 cm. The right kidney measured 4.5 cm.

**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 right adrenal gland measured 0.57 cm at the cranial pole and 0.55 cm at the caudal pole. The left adrenal gland measured 0.56 cm at the cranial pole and 0.63 cm at the caudal pole.

**Spleen**

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.

**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 benign parenchymal remodeling. Mid liver intraparenchymal mildly hypoechoic macronodule noted measuring 3.4 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. Mild non-dependent to congealed, yet non-organized debris present. The cystic and common bile ducts were normal.



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**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 small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with semiformal to soft feces present, consistent with reported diarrhea.

**Pancreas**

The parenchyma of the pancreas was hyperechoic to adjacent omental fat with diffuse parenchyma remodeling. The capsule of the pancreas was mildly asymmetrical in contour without evidence of peripancreatic inflammation. These changes may suggest chronic inflammation, fibrosis, or saponification if previous history of pancreatitis. No overt signs of pancreatic neoplasia.

**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

- Hepatic parenchymal remodeling with central intraparenchymal mildly hypoechoic macronodule.
- Mild non-dependent yet non-organized gallbladder debris (non-mucocele).
- Mild chronic renal changes with minor pyelectasia.
- Prominent to hyperechoic pancreas – potential for pancreatic fibrosis versus chronic pancreatitis.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The hepatic presentation was non-specific with multiple etiologies including vacuolar hepatopathy, potential inflammatory/immune mediated disease, central area of hematopoiesis, nodular to regenerative hyperplasia, or other hepatopathy, with neoplasia possible yet thought less likely. Assuming normal clotting status, ultrasound guided hepatic parenchymal and central intraparenchymal macronodular FNA recommended for screening cytology. Hepatosupportive medications including Denamarin and Ursodiol, given the presence of gallbladder debris, may prove beneficial. Hepatic functionality is likely normal, assuming normal albumin, glucose, BUN, and cholesterol levels.

The pyelectasia may be owing to chronic renal changes, potential pelvic scarring possibly owing to previous calculi passage, IV fluid therapy (if applicable). Urine C/S and protein: creatinine ratio on sterile urine sample is recommended.

Chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation. Correlation with a spec cPL could be considered.

Suspect gastroenteritis with potential for more chronic inflammatory gastroenterocolonopathy possible if recurrent gastrointestinal signs, with some potential contribution to the gastrointestinal signs owing to chronic pancreatitis. Continued gastrointestinal support recommended.



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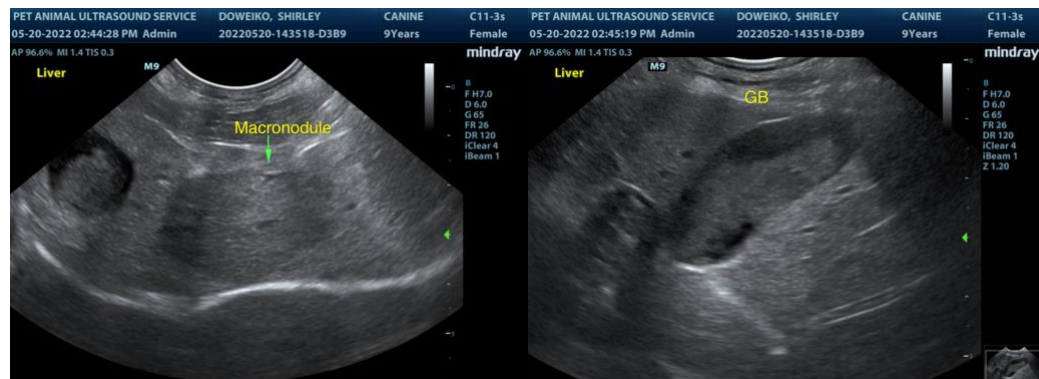
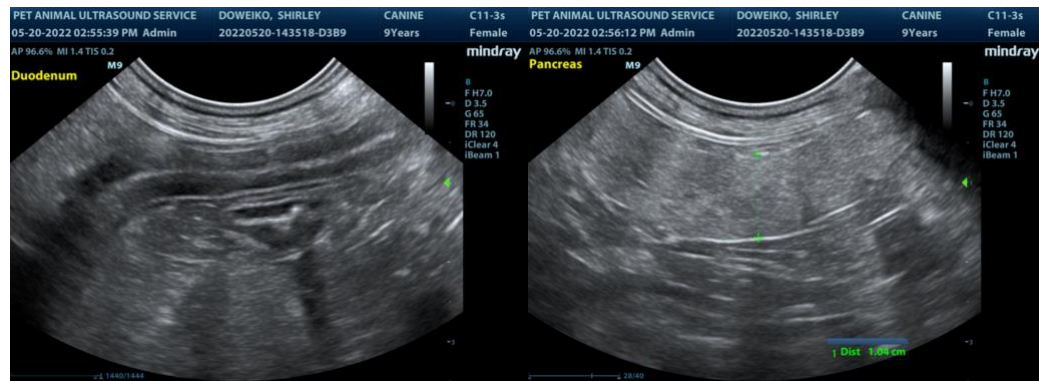
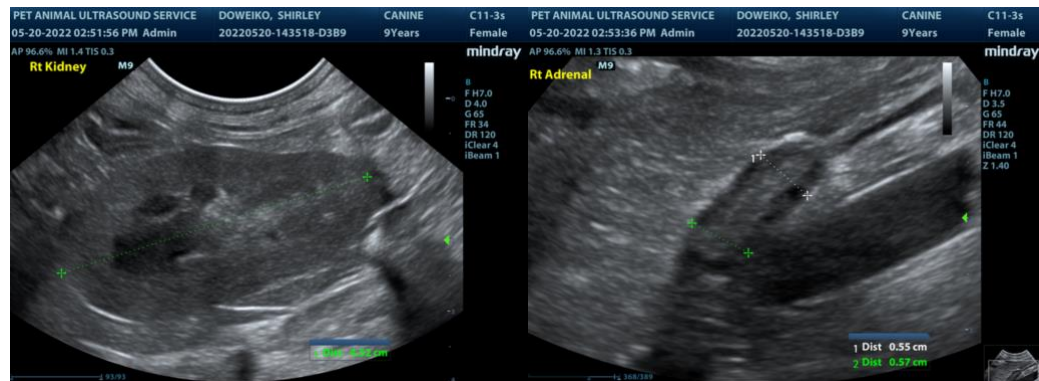
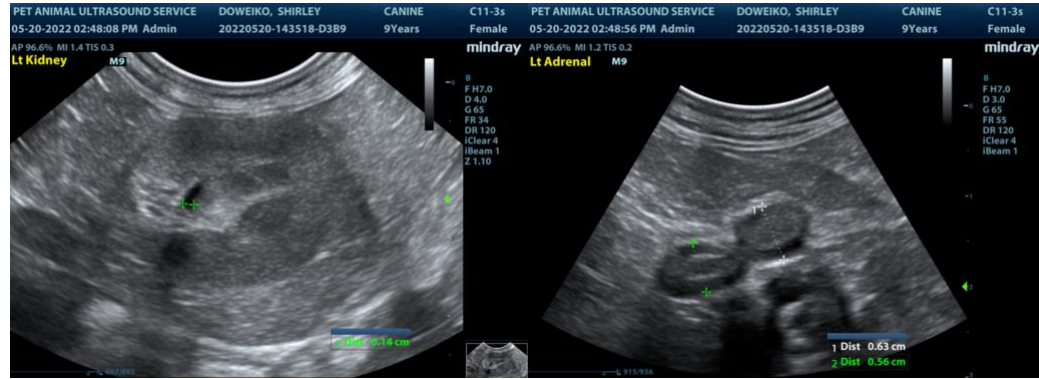
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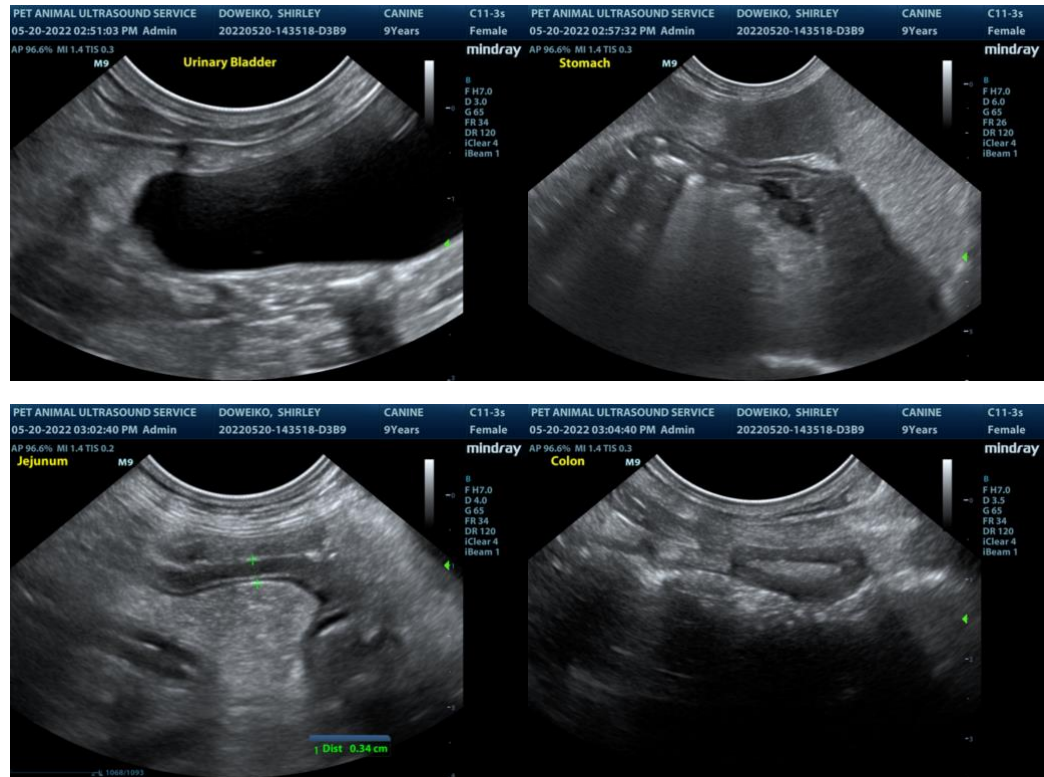
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)  
 info@SonoPath.com