



**PATIENT PRESENTING CLINICAL SIGNS**

Kaylyn Evans History: Vomiting, diarrhea, anorexia  
Medication: Cerenia, Pepcid, Metronidazole

**SPECIES**  
Canine BUN 40, Creatinine 0.9, decreased sodium and chloride

**BREED** **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Yorkie** *Urinary System*

**SEX** The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Mild asymmetrical luminal surface to micropolyploid changes were present likely associated with age related mural changes. 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.

**AGE** The area of the aortic trifurcation was free of pathology.

**WEIGHT** Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio with moderate loss of corticomedullary demarcation was present. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. Small cortical cysts were present in the left kidney. A hyperechoic corticomedullary band, consistent with a medullary rim sign, was present. This is a nonspecific finding seen in both normal and abnormal kidneys. It may be associated interstitial renal disease, hypercalcemia, tubular necrosis, lymphoma, and Leptospirosis. However, it is a nonspecific finding. The left kidney measured 2.7 cm length. The right kidney measured 2.5 cm length. No evidence of left or right retroperitoneal inflammation or effusion was noted.

**INTERPRETED BY**

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

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.3 cm length x 0.39 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 1.3 cm length x 0.25 cm width at the caudal pole.

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**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.

**HOSPITAL NAME**

Maple Hills VH

**REFERRING VET**

Dr. Banzhof

**INVOICE**

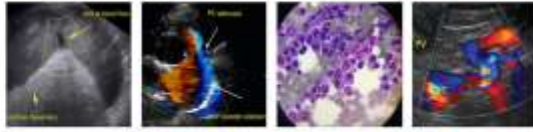
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**Liver/ Gallbladder**

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

**DATE**

10.29.2021



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The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

***Gastrointestinal***

**SPECIES**

Canine

The stomach presented intact wall layering with a normal wall layer ratio. Mild to moderate, retained anechoic fluid without evidence of retained ingesta, foreign material, or mechanical pyloric outflow obstruction.

**BREED**

Yorkie

Focal to likely multifocal, variably thickened hypoechoic walls with loss of discernable wall layering, were present in the small intestine. Associated segmental paralytic ileus was present within the lumen of the abnormal intestine without an obstructive pattern in the intestine proximal to the abnormal intestine. Additional segment of the small intestine, likely jejunum, exhibited intact wall layering and maintained a 1:3 muscularis / mucosa ratio without evidence of metabolic or mechanical ileus. The thickened segment of intestine measured 4.0 cm - 5.0 cm in length and up to 0.96 cm in wall width. By comparison, normal-appearing small intestine measured 0.30 cm wall width. The duodenum wall measured 0.41 cm wall width. Regional lymphadenopathy and surrounding echogenic omentum were present around the abnormal intestine.

**SEX**

FS

**AGE**

13 years

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

***Pancreas***

**WEIGHT**

6 Pounds

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 were evident.

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***Free Abdomen***

Regional peri intestinal reactive mesentery was noted around the thickened segments of the Intestine.

Multiple, midabdominal mesenteric lymph nodes were present. These lymph nodes were homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was evident. An example of lymph node size was 2.4 cm x 1.0 cm. Small pockets of primarily peri intestinal free fluid were noted.

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 ARDMS/RVT

**ULTRASONOGRAPHIC FINDINGS**

**HOSPITAL NAME**

Maple Hills VH

***Primary Findings***

- Focal to multifocal jejunal and mural masses and associated mild paralytic ileus - consistent with neoplastic criteria, lymphoma, adenocarcinoma, stromal tumor, or other possible
- Associated hypoechoic to prominent mesenteric lymph nodes - high concern for concurrent neoplastic or metastatic lymphadenopathy
- Mild gastric hypomotility
- Bilateral moderate to advanced chronic renal changes with nonspecific medullary rim sign

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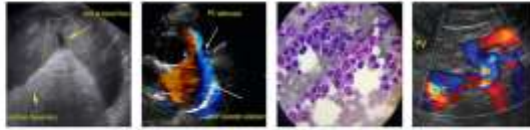
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Potential for severe, segmental, non-neoplastic or inflammatory process along with concurrent reactive lymphadenitis is possible, yet considered less likely.

**SPECIES**

Canine

Assuming normal clotting status, ultrasound guided FNA of a mesenteric lymph node +/- intestinal wall for screening cytology and potential oncology consultation could be considered. Otherwise, intestinal and lymphatic biopsies may be indicated for a definitive diagnosis. A very guarded to unfavorable prognosis is indicated. Three view chest radiographs are suggested.

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Yorkie

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**AGE**

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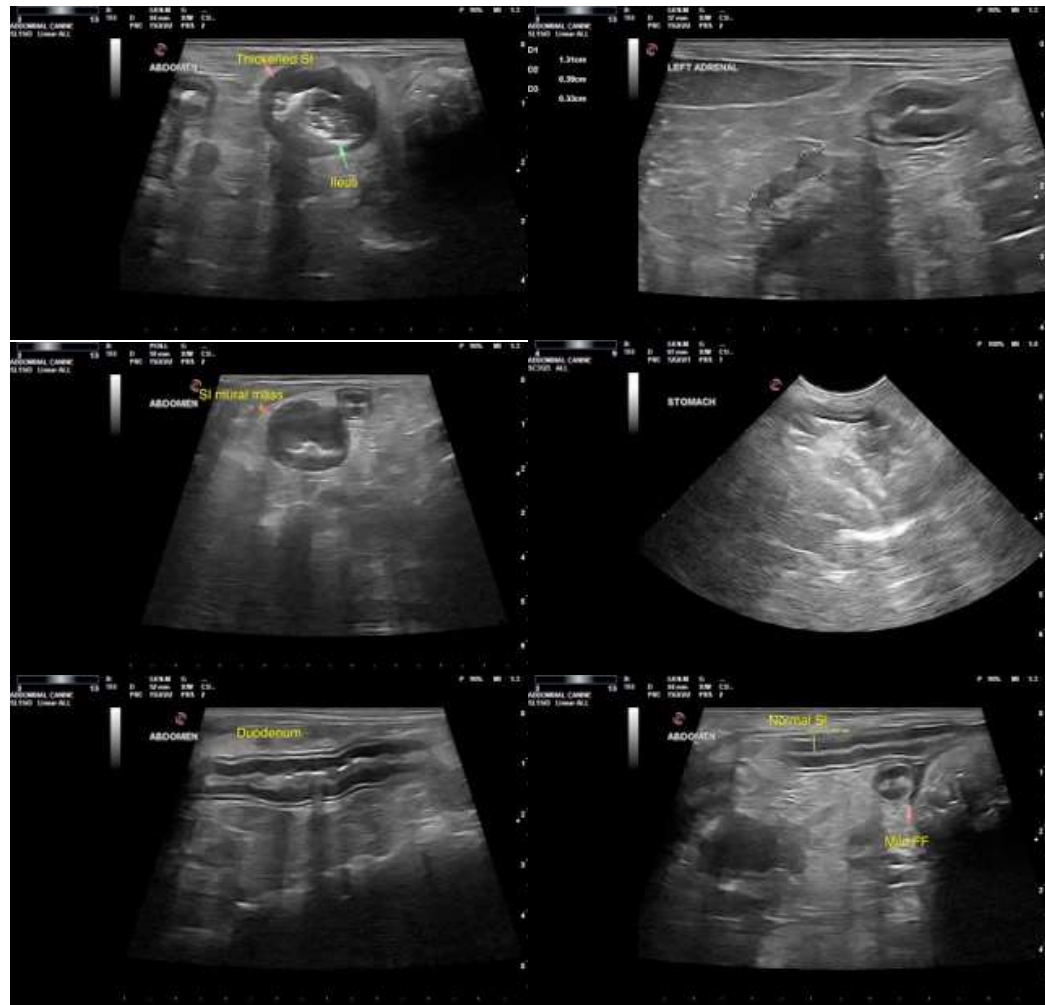
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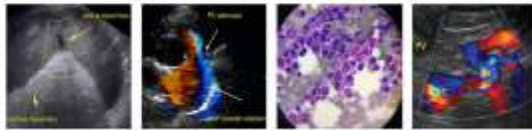
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)**

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