



**PATIENT PRESENTING CLINICAL SIGNS**

Mei Ling Lehman-Rogers

**SPECIES**

Canine

**BREED**

Lhasa Apso

**SEX**

FI

**AGE**

14yr

**WEIGHT**

7.4kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jenna Walsh CVT

**HOSPITAL NAME**

Silver Creek Animal  
Clinic

**REFERRING VET**

Dr. Tangeman

**INVOICE**

11961ag

**DATE**

10/20/2022

Patient presented 1 week ago for a lump on the side and being lethargic after falling off the couch 1-2 weeks before. On exam the gums were pale pink and the lump actually felt like the tail of the spleen. Brief abdominal ultrasound found a spleen that extended to the bladder, but no free fluid. Blood work confirmed a moderate anemia, but the chemistry was normal. Owner had been supplementing the diet with an iron supplement for years, but was never told that the dog had anemia before. Recheck yesterday owner said the patient was feeling better and the swelling had decreased. On exam the gums were still pale, patient now had a low grade fever (102.8), the spleen was less prominent, and the anemia was unchanged. Current Medications Nothing, owner stopped giving the iron supplement  
Primary Question/Differential to Be Answered in This Exam Possible cause of the anemia Signs of hemosiderosis

Abnormal PE/Chem/CBC/UA Results: 10/12/22 Chemistry: normal CBC: HCT- 26% and Platelets 100 10/19/22 CBC: HCT- 26% and Platelets 100

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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.

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 to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Pinpoint medullary mineral was present bilaterally. The left kidney measured 4.7 cm in length. The right kidney measured 5.4 cm in length.

The area of the aortic trifurcation was free of pathology.

The area of the iliac trifurcation was free of pathology including no evidence of medial, iliac or sublumbar lymphadenopathy.

The left and right ovaries were normal in size exhibiting potential for mild cystic changes, the left measuring 1.7 cm and the right measuring 1.8 cm in diameter. No overt pathology in the area of the uterus.

**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 1.6 cm length and 0.42 cm width in the caudal pole. The right adrenal gland measured 1.7 cm width length and 0.44 cm width in the caudal pole.

**Spleen**

The spleen exhibited marked generalized enlargement with medial folding of the cranial spleen. Generalized mild parenchyma heterogeneity with subjective mild fluid accumulation which appeared to be within the subcapsular space was present in the area of the cranial spleen. The possibility of mild perisplenic free fluid cannot be definitively excluded.



**PATIENT** *Liver*

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

**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 apparent formed feces in lumen.

**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.

**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

Multiple focally enlarged cranial mesenteric (splenic and hepatic) 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 and hyperechoic mesentery was evident. An example of lymph node size was 3 cm x 2.2 cm.

Rapid view of the heart revealed no evidence of pericardial masses or effusion in the visible window.

**ULTRASONOGRAPHIC FINDINGS**

- Marked splenomegaly exhibiting mild non-homogeneous parenchyma, cranial splenic folding with potential subcapsular hemorrhage
- Hepatomegaly exhibiting uniform parenchyma
- Multiple hypoechoic to swollen cranial mesenteric lymph nodes
- Perisplenic to perilymphatic hyperechoic mesentery

**Secondary**

- Mild chronic renal changes
- Mild cystic ovaries-likely incidental

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the degree of splenomegaly in conjunction with hypoechoic to swollen cranial mesenteric lymphadenopathy, multicentric round cell neoplasia such as lymphoma strongly suspected. Potential for



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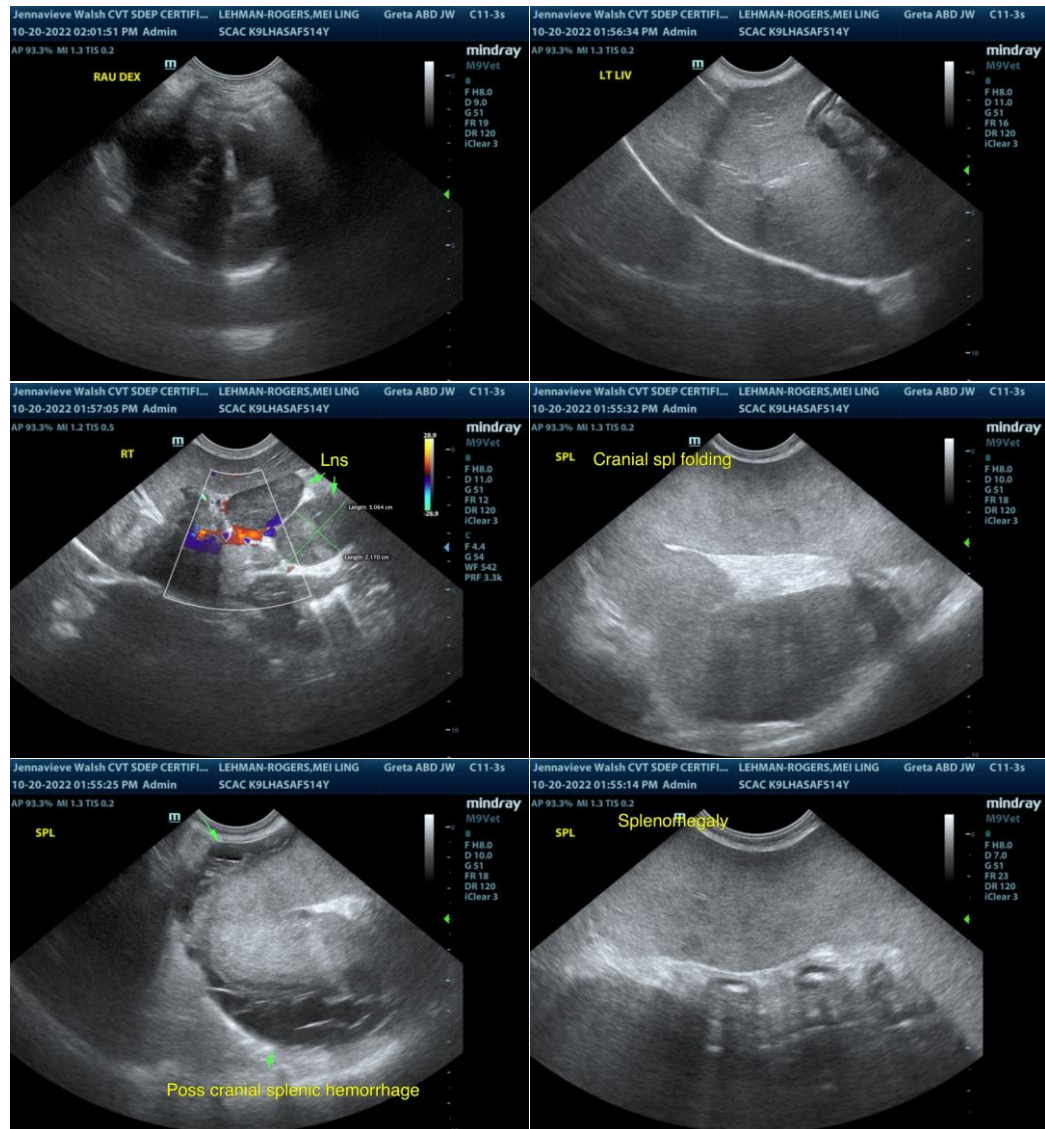
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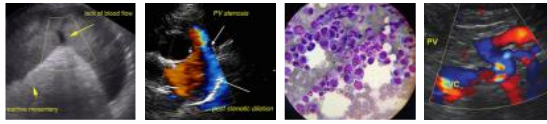
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severe splenic hyperplasia, hematopoiesis, splenitis with associated mesenteric hyperplasia lymphadenitis considered less likely. Assuming normal clotting status and using a 25g needle, a splenic and accessible lymph node FNA for screening cytology is warranted for further assessment and potential oncology consult. Concurrent hepatic FNA for additional staging is also warranted. Three view chest radiographs are recommended if not done to assess for occult thoracic pathology. A very guarded to unfavorable prognosis is indicated.





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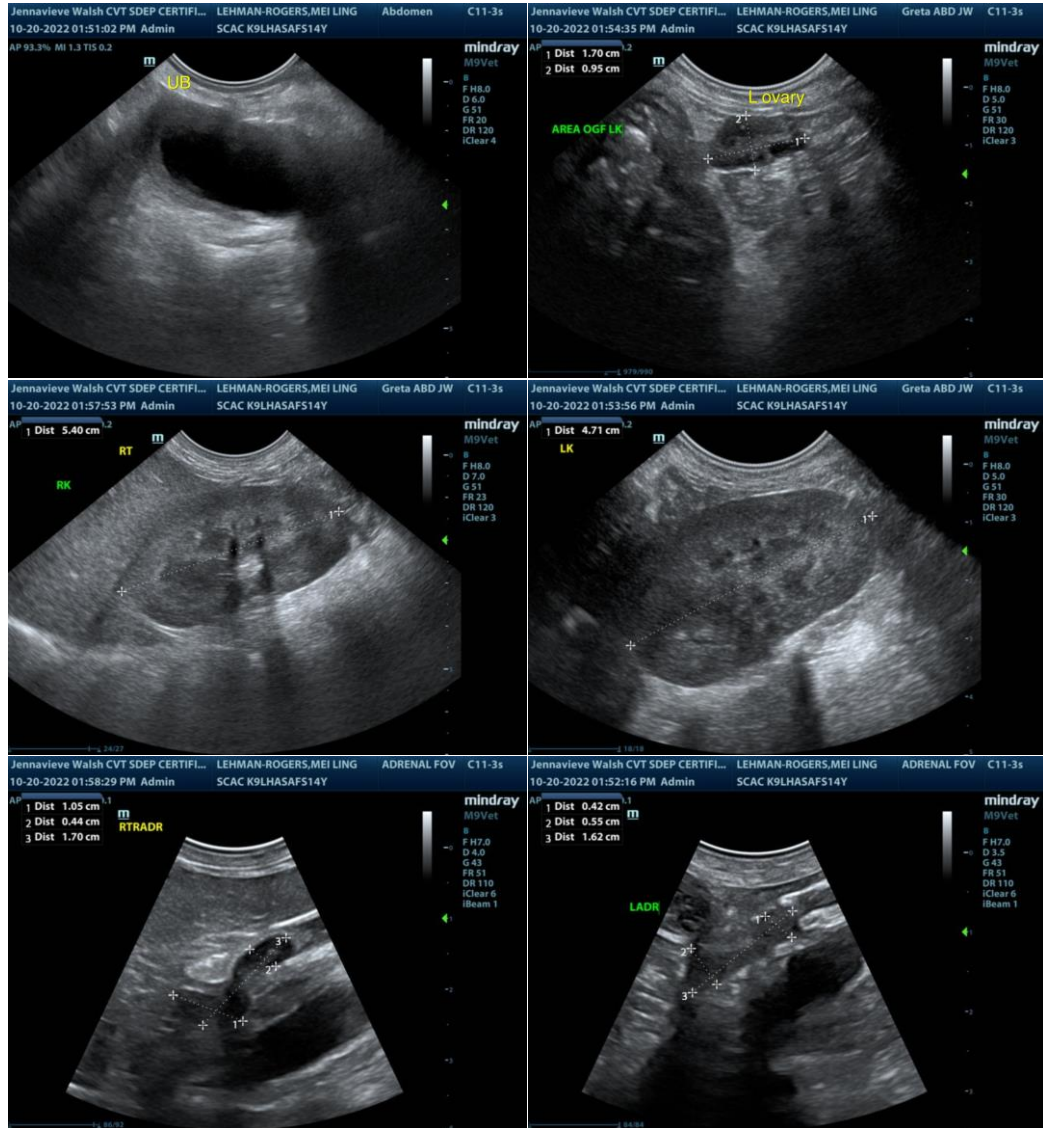
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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