



**PATIENT**

Luna Brahm

**SPECIES**

Canine

**BREED**

Cattle Dog X

**SEX**

Spayed Female

**AGE**

12 Years

**WEIGHT**

59.6 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

M. Kermendy, CVT

**HOSPITAL NAME**

Wauwatosa VC

**REFERRING VET**

Dr. Elaine Binor

**INVOICE**

36993

**DATE**

4/19/22

**PRESENTING CLINICAL SIGNS**

History of elevated ALT and ALk Phos since 4/11/22. On Enalapril and Denamarin for PLN. History of hepatic nodules found on AUS in 11/2021. Plan to recheck the status of the liver and determine if hepatic nodules have changed. Plan to check status of liver and adrenal glands. she is doing well at home.

Abnormal PE/Chem/CBC/UA Results: BUN=30 (7-27) ALT= 239 (10-125) Alk phos= 885(23-212) Rest of chemistry is WNL

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. Irregular contour noted with microinfarcts. Microcystic cortical changes noted in both kidneys. The left kidney measured 5.88 cm. The right kidney measured 5.46 cm with calculi noted, non-obstructive.

**Adrenal Glands**

The **left adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.50 cm.

The **right adrenal gland** was not visualized.

**Spleen**

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The spleen was folded upon itself cranially. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

**Liver**

The **liver** presented uniform enlargement. Parenchyma presented a moderate amount of non-specific remodeling, consistent with benign hepatopathy. The gallbladder was unremarkable.

**Gastrointestinal**

The **gastrointestinal tract** revealed diffuse, hyperechoic fogging or overlay throughout the small intestine as well as areas of mucosal striations and speckling. This striation + fogging effect appeared to exclusively affect the mucosal layer with the submucosa, muscularis and serosa left in-tact. Reactive mesentery was present associated with the serosa indicative of active inflammation. This is most consistent with protein losing enteropathy/lymphangectasia. Full thickness biopsies or endoscopy



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guided biopsies would be ideal to confirm. No obstructive disease or obvious suspicion of neoplasia. Wall thickness measured 0.46 cm.

**Pancreas**

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The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

**BREED**

Cattle Dog X

**Free Abdomen**

A large amount of abdominal fat noted.

**SEX**

Spayed Female

- Moderate degenerative renal changes
- Benign hepatopathy with remodeling
- Large amount of abdominal fat

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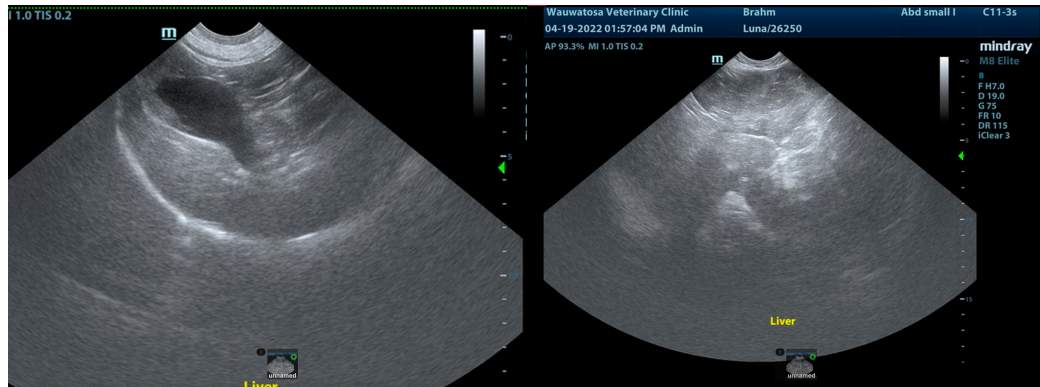
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

If adrenal disease is suspected in this patient, further imaging of the right adrenal indicated.

**Radiographs: Hepatomegaly, potbellied appearance.**

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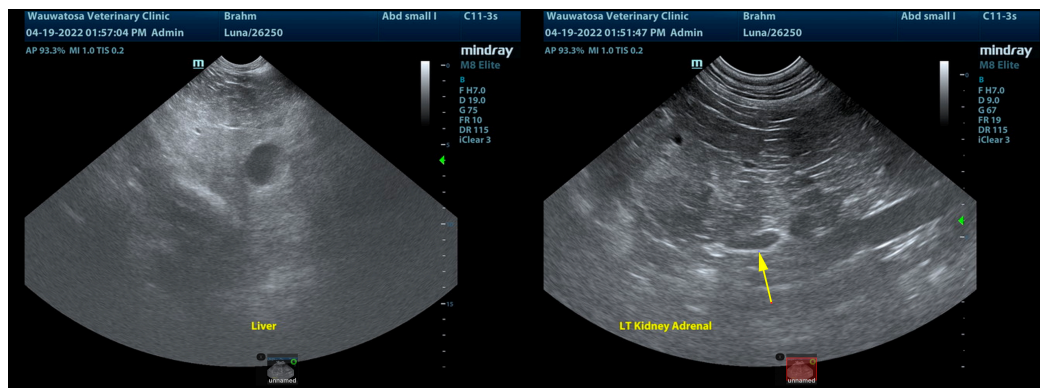
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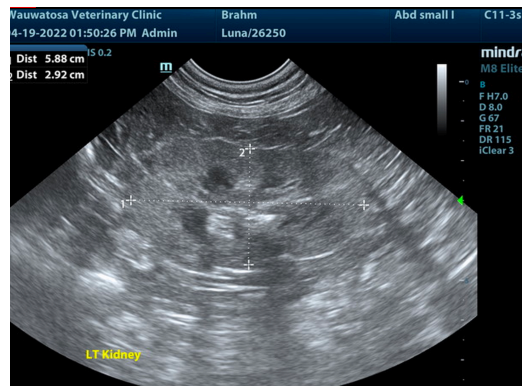
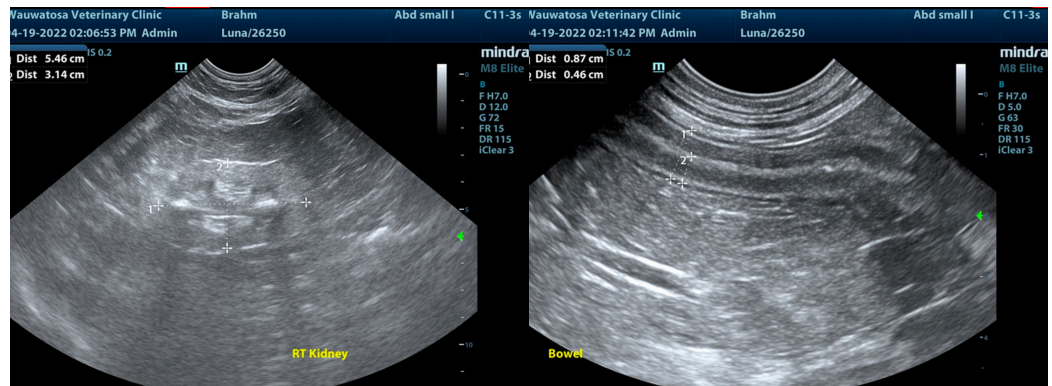
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

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