



**PATIENT**

Lucy Wallace

**SPECIES**

Canine

**BREED**

Terrier Chihuahua  
Cross

**SEX**

Spayed Female

**AGE**

13 years

**WEIGHT**

4.9 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Belan

**HOSPITAL NAME**

Resolution Veterinary  
Ultrasound LTD

**REFERRING VET**

Dr. Huet

**INVOICE**

99424

**DATE**

4/20/22

**PRESENTING CLINICAL SIGNS**

Enlarged liver on previous x rays taken in March. History of uroliths.  
Abnormal PE/Chem/CBC/UA Results: Mild elevation ALT moderate elevation ALP, low serum protein and elevated urine protein

**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 was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.23 cm. An anechoic cyst was noted at the caudal pole of the left kidney and measured 0.86 cm. An anechoic cyst was noted in the cranial pole that measured 0.77 cm. The left kidney measured 4.2 cm.

**Adrenal Glands**

Both **adrenal glands** were 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 right adrenal gland measured 0.64 cm at the cranial pole and 0.54 cm at the caudal pole. The left adrenal gland measured 0.6 cm at the caudal pole.

**Spleen**

The **spleen** was largely smooth with subtle heterogeneous parenchymal changes while maintaining normal echogenic relationship to the liver and kidney. These changes are consistent with normal age-related alteration. A focal, hypoechoic nodule was noted at the cranial body that measured 0.25 cm. The capsule was smooth without noticeable impingement from within the spleen or from pathology in the adjacent abdomen. The splenic vasculature demonstrated normal volume without signs of congestion or significant contraction. No evidence of active acute or chronic inflammatory, neoplastic, or infarctual changes was noted. The spleen measured 1.12 cm.

**Liver**

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Multi-focal, hypoechoic nodular changes were noted throughout the liver. This is consistent with hyperplasia and remodeling. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder was mildly over distended with



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suspended and dependent debris, yet not to the level of emerging mucocele. However, the sludge appears to be mildly excessive. No adjunctive inflammation was noted.

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**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Variable hypoechoic parenchyma was noted with nodular changes noted with mild disruption of architecture. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected. The right limb measured 1.14 cm.

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**ULTRASONOGRAPHIC FINDINGS**

Pancreatic and hepatic remodeling, non-specific. Minimal potential for neoplasia.

Age related renal changes with pyelectasia.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

FNA of the liver is warranted for further definition and long term management. The probability for neoplasia is minor.

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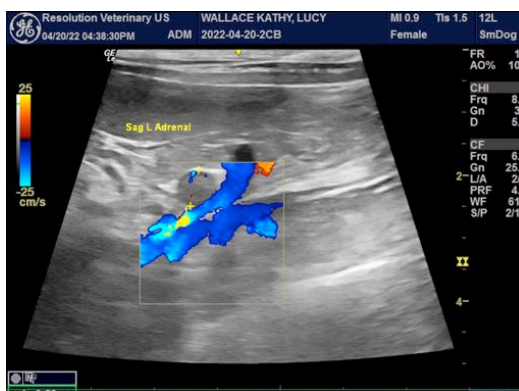
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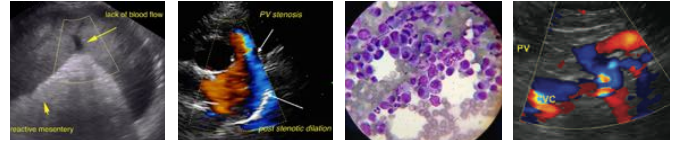
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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