



**PATIENT PRESENTING CLINICAL SIGNS**

Aspen Arlt

History: elevated liver values  
Abnormal PE/Chem/CBC/UA Results: TOTAL PROTEIN 8 HIGH 5.0-7.4 g/dL Alk Phosphatase 2738 HIGH 5-131 IU/L GGT 1 1-12 IU/L Result Verified TRIGLYCERIDE 624 HIGH 29-291 mg/dL PrecisionPSL 157 HIGH 24-140 U/L

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed female

**AGE**

11 years

**WEIGHT**

16.9 lbs

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder** and visible pelvic urethra were unremarkable for the level of repletion presented. The urine, however, did present some mildly echogenic debris consistent with mucous, exfoliated cells from renal or bladder origin, and/or blood clots as these echogenic changes can all present similarly. This is often related to urinary tract infection but may represent simple evidence of exfoliated debris or sterile inflammation. Cystocentesis, urinalysis, +/- culture would be recommended to rule out and define any UTI.

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 his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Minor cortical cysts were noted.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Adrenal Glands**

Both **adrenal glands** measured normal, yet appeared subjectively swollen. The right adrenal gland measured 0.6 cm. The left adrenal gland measured 0.57 cm at the caudal pole and 0.48 cm at the cranial pole.

**IMAGING PERFORMED BY**

Dr. Mychajlonka

**Spleen**

**HOSPITAL NAME**

Craig Road AH

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. 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 was noted.

**REFERRING VET**

Dr. Mychajlonka

**Liver**

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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. Occasional hypoechoic nodule was noted and measured up to 1.5 cm. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology

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was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

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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.

**BREED**

Shih Tzu

**SEX**

Spayed female

**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. 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.

**AGE**

11 years

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

16.9 lbs

Benign hepatopathy with remodeling and nodular hyperplasia pattern.

Subjectively swollen adrenal glands.

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

Bladder debris.

Age related pancreatic changes.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

FNA of the liver can be considered for further definition; however, subjectively this appears benign. If the urine specific gravity is persistently less than 1.020 then work-up for PDH is indicated.

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**PATIENT**

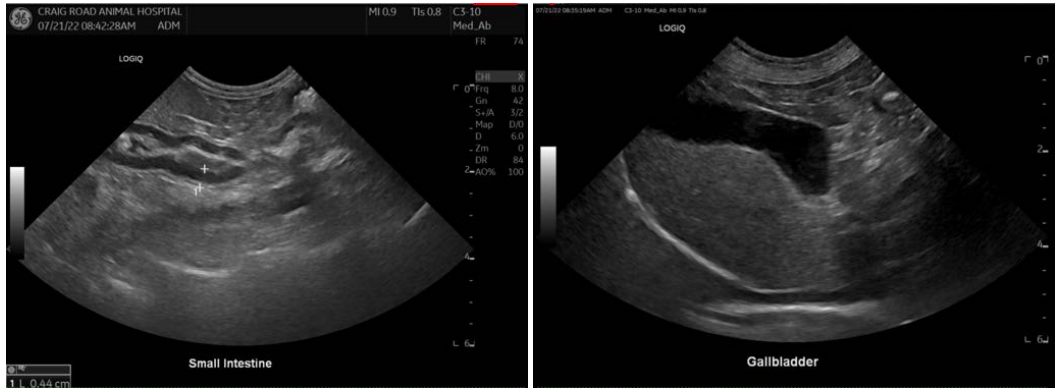
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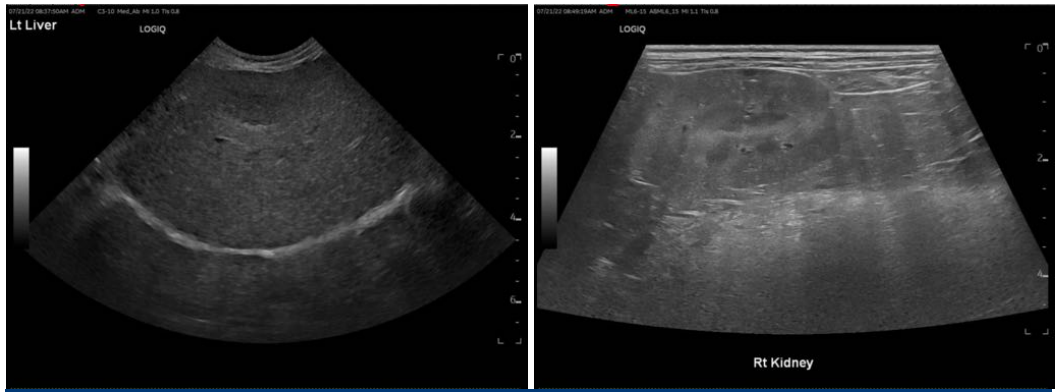
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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