



**PATIENT**

Toffee Georgousis

**SPECIES**

Canine

**BREED**

Havanese Mix

**SEX**

Neutered Male

**AGE**

7 Years

**WEIGHT**

8.2 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING  
PERFORMED BY**

Dave Stasiuk, RDMS,  
RDCS

**HOSPITAL NAME**

Chris Belan VS

**REFERRING VET**

Healing Traditions  
Holistic VC

**INVOICE**

13654

**DATE**

10/9/21

**PRESENTING CLINICAL SIGNS**

History: Elevated post prandial bile acids at 41.

Abnormal PE/Chem/CBC/UA Results:

**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** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.94 cm. The left kidney measured 4.03 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 0.35 cm. The left adrenal gland measured 0.5 cm maximum width.

**Spleen**

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 were noted.

**Liver**

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder and common bile duct were unremarkable. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident. Intrahepatic volume appeared normal.

**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.

**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.

## ULTRASONOGRAPHIC FINDINGS

- Structurally normal liver

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No obvious evidence of portosystemic shunting, however, further imaging of the portal hilus and portal vein to vena cava ratio would be necessary for a complete rule out. However, no global signs of portosystemic shunting are present such as bladder calculi, microhepatica or swollen kidneys. This along with the fact that the liver presents normal volume and normal intrahepatic vascular volume, shunting is unlikely. Other causes of bile acid elevation such as portal hypoplasia (which is a biopsy diagnosis), intestinal dysbiosis or spurious elevation are all possible. The hepatic parenchyma appears uniform. No evidence of significant remodeling. If bile acids are persistently elevated, then liver biopsy would be appropriate or diet change to liver-oriented diet, 7-10 days metronidazole and reassessment of the bile acid elevation.





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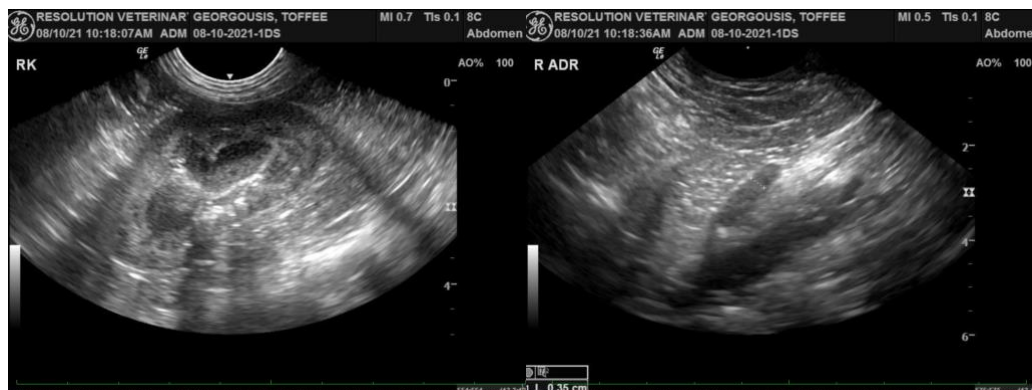
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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