



PATIENT

Brownie Keller

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

Spayed female

AGE

13 years

WEIGHT

19.2 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**IMAGING
PERFORMED BY**

Dr. Harris

HOSPITAL NAME

TotalBond VH

REFERRING VET

Dr. Probst

INVOICE

42288

DATE

11/2/22

PRESENTING CLINICAL SIGNS

History: Brownie a 13 yr old spayed female jack russell presented for abdominal u/s. She has had liver values going slowly up over the last few years. History of vasculitis and currently being treated with pentoxifylline 400mg 1/2 tab po tid. 10-26-22= alt 181 and alp 638 8-17-22 = alt 149 and alp 539 8-18-21= alt 102 and alp 379 8-19-20= alp 214

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone and visible pelvic urethra 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 his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.53 cm. The left kidney measured 4.5 cm with pinpoint mineralization noted.

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 0.56 cm. The left adrenal gland measured 0.62 cm.

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 was noted.

Liver

The **liver** revealed multi-focal, hyperechoic, non-disruptive nodular changes with coarse architecture. Slightly increased portal markings were noted. The gallbladder was unremarkable with a minor amount of suspended debris.



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Gastrointestinal

Brownie Keller

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. Intestinal wall thickness measured up to 0.43 cm. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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Pancreas

Jack Russell Terrier

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.

SEX

Spayed female

ULTRASONOGRAPHIC FINDINGS

AGE

Minor, geriatric abdominal changes.

13 years

Non-specific, nodular hyperplasia liver pattern.

Non-specific, cholangitis with lipogranulomatous or hyperplastic nodules.

WEIGHT

19.2 lbs

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

INTERPRETED BY

FNA is warranted for further definition, this is likely reactive hepatopathy.

Eric Lindquist, DMV
DABVP, Cert. IVUSS

The hepatic clinical sonographic presentation is most consistent with Reactive Hepatopathy which is the most common cause of liver enzyme elevation in dogs and cats. The presumption is that gut and other organ antigen stimuli may be causing a low-grade immune response through portal system with which the liver is reacting to causing low-grade enzyme elevations. US-guided FNA could be performed to assess if low grade lymphoplasmacytic inflammation is present that would support this theory. If FNA is performed, please ask the cytologist to emphasize the primary inflammatory cell type. Empirical treatment measures to address this issue can include diet change to hydrolyzed diet, probiotics, deworming, nutraceuticals (SAME, Actigall...), dental exam and cleaning, and potentially antibiotics such as Clavamox. Metronidazole and Tylosin have traditionally been utilized for this purpose but new studies show that both these antibiotics can disrupt the normal intestinal bacterial flora (intestinal dysbiosis) for weeks and up to 4-6 months. Therefore, Metronidazole and Tylosin should be utilized as a last resort if other efforts have not been effective and sonographic organ appearance remains benign.

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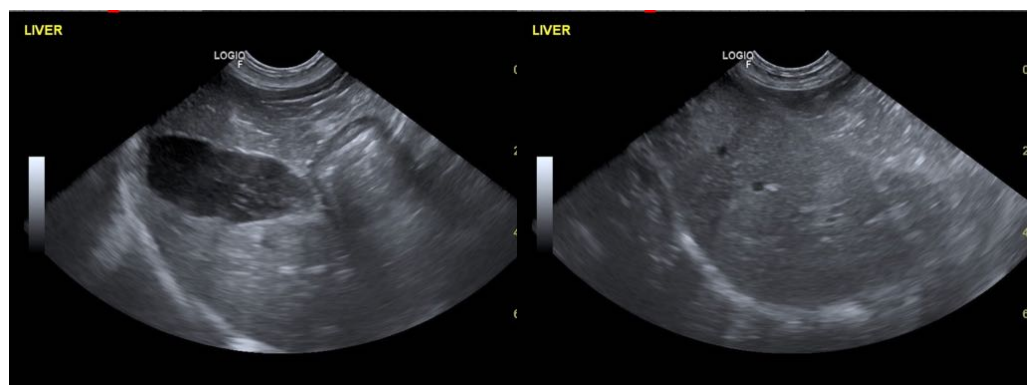
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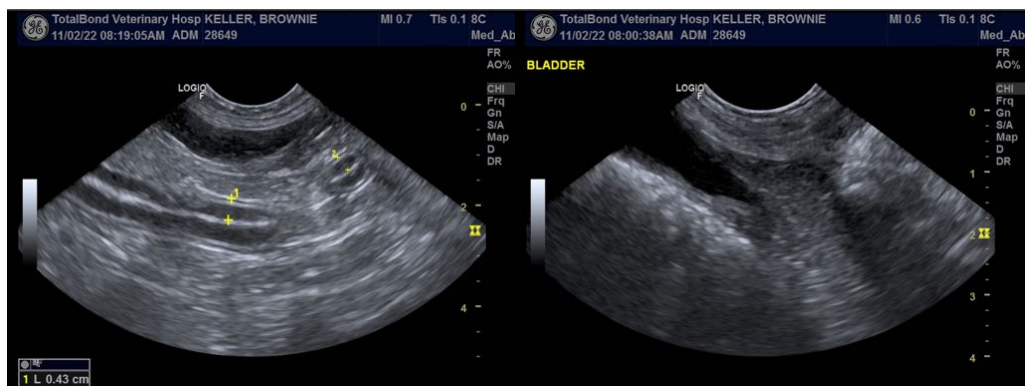
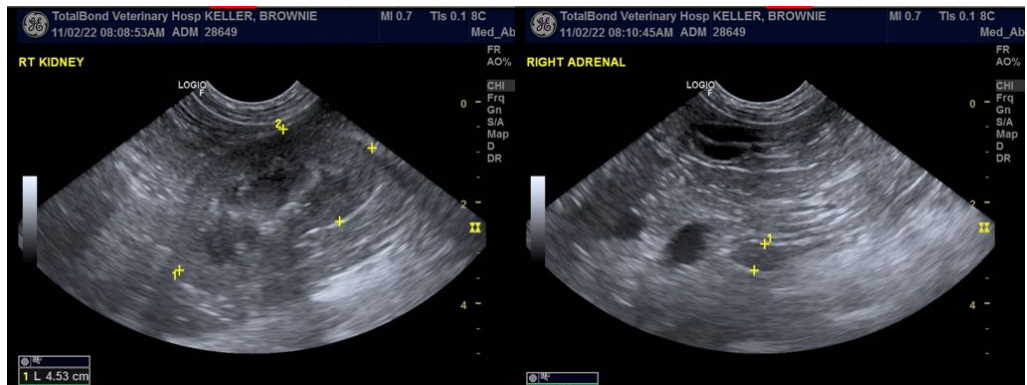
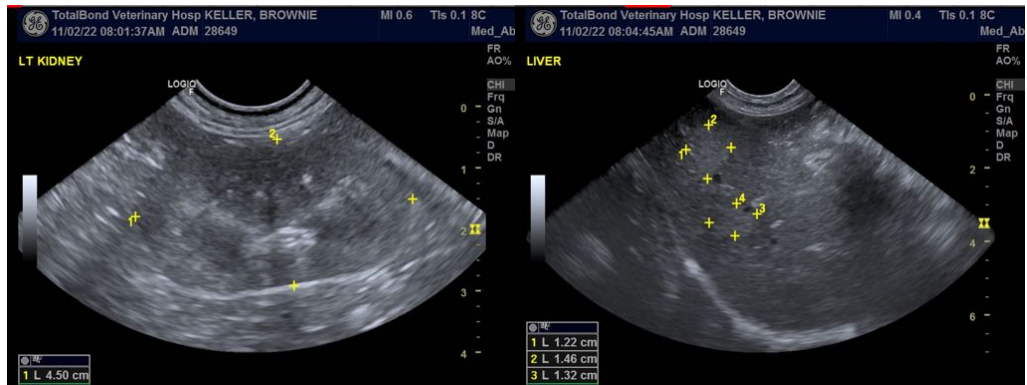
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
info@SonoPath.com