

**PATIENT PRESENTING CLINICAL SIGNS**

**Buster Radford**  
**SPECIES** Canine  
**BREED** Mixed  
**SEX** Neutered Male  
**AGE** 12.12.2014  
**WEIGHT** 41.6 lbs

Clinical Exam Findings: elevated ALT, ALP and GGT lower than at pDVM yesterday and Tbili now normal, cbc wnl. AFAST: hyperechoic liver, sludge in GB, 0.65 mm wall of GB. Rx: denamarin and clavacillin. F.A.S Score: 1. Pain Score 0-4: 0. BAR, T 102 F MM- pink, moist CRT <2s. EENT: stage 1 periodontal disease, ears clean and pink AU, eyes wnl OU. PLN: nodes palpate within normal limits. H/L: no arrhythmia or murmur, lungs clear. ABD: nonpainful, no mass palpable. Integ: skin pink and coat healthy. M/S/N: no lameness noted, amb x 4. BCS: 5/9

Abnormal lab-work values: ALT 816. ALKP 301. GGT 18. RBC 9.09. HGB 21.0. HR/RR/BP: 110/24/did not obtain

Current Medications: Denamarin 425mg (30ct) per box and Clavacillin 250mg per tablet

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder** wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The prostate is normal in size (0.82 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The **left kidney** is normal size (6.06 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The **right kidney** is normal size (5.86 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The **left adrenal gland** is normal size (0.63 cm at cranial pole) (0.54 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The **right adrenal gland** is normal size (1.07 cm at cranial pole) (0.65 cm at caudal pole) (0.67 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**Spleen**

The **spleen** is normal in size (1.77 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

**Liver**

**INTERPRETED BY**

Andrea Nicastro, DVM,  
Diplomate ACVIM (Small  
Animal Internal Medicine)

**IMAGING PERFORMED BY**

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Animal Internal Medicine)

**HOSPITAL NAME**

Park West Vet Assoc.

**REFERRING VET**

Elise Mauer

**INVOICE**

11202

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The **liver** is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative, or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The portal vein to caudal vena cava ratio is approximately 1: 1.

The **gall bladder** lumen is moderately distended. The wall is thin and smooth. A small to moderate amount of aggregated, echogenic, gravity dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**Gastrointestinal**  
The **stomach and intestine** are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

**Pancreas**  
The region of the **pancreas** is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

**Free Abdomen**  
The **peritoneal cavity** is normal. There is no evidence of inflammation or effusion. The abdominal **lymph nodes** are normal/not visible.

**Other**  
A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

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**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Unremarkable abdomen. An obvious cause for the elevated liver enzymes is not identified in the study. However, a microscopic hepatopathy (i.e., bacterial cholangiohepatitis, Leptospirosis, chronic active hepatitis, copper-associated hepatotoxicity, infiltrative neoplasia (less likely)) cannot be excluded. Given the improvement in liver values with antibiotics and antioxidant therapy, bacterial cholangiohepatitis, Leptospirosis or a toxic insult are the most likely differentials in this patient.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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- Consider Leptospirosis testing (i.e., blood and urine PCR, serology)
- Antibiotics and Denamarin should be continued for at least 3-4 weeks, and one week beyond normalization of the liver values. Once the patient is off medication completely, liver values should be rechecked 2-3 weeks later to assess for relapse. If liver values do not continue to improve or if recurrence of the liver enzyme elevations occurs, consider hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy.) Surgical biopsies are preferred in that they are more likely to be representative of global organ pathology. If pursued, aerobic and

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anaerobic bile cultures as well as acquisition of additional hepatic tissue samples for potential copper quantitation are recommended.

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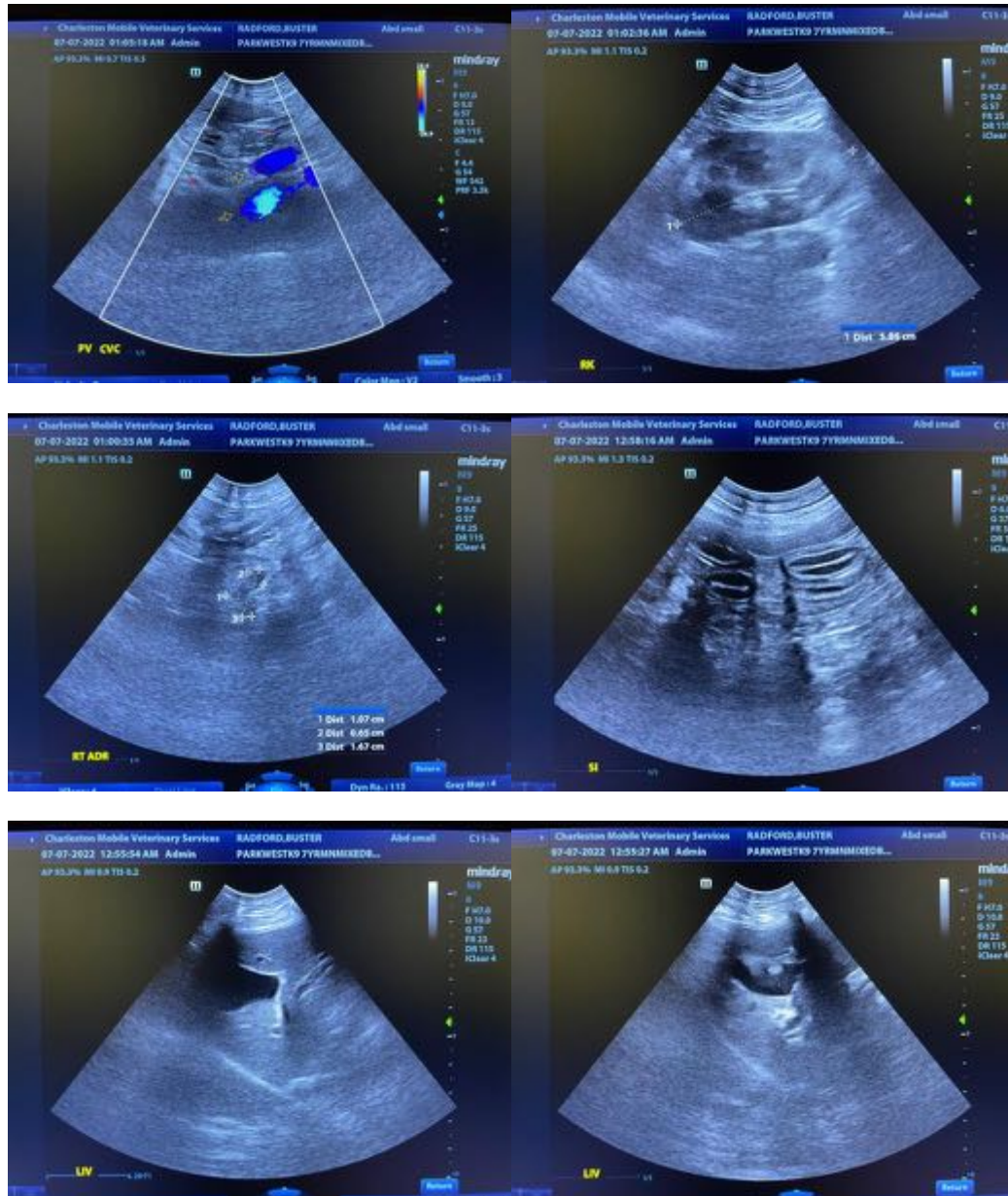
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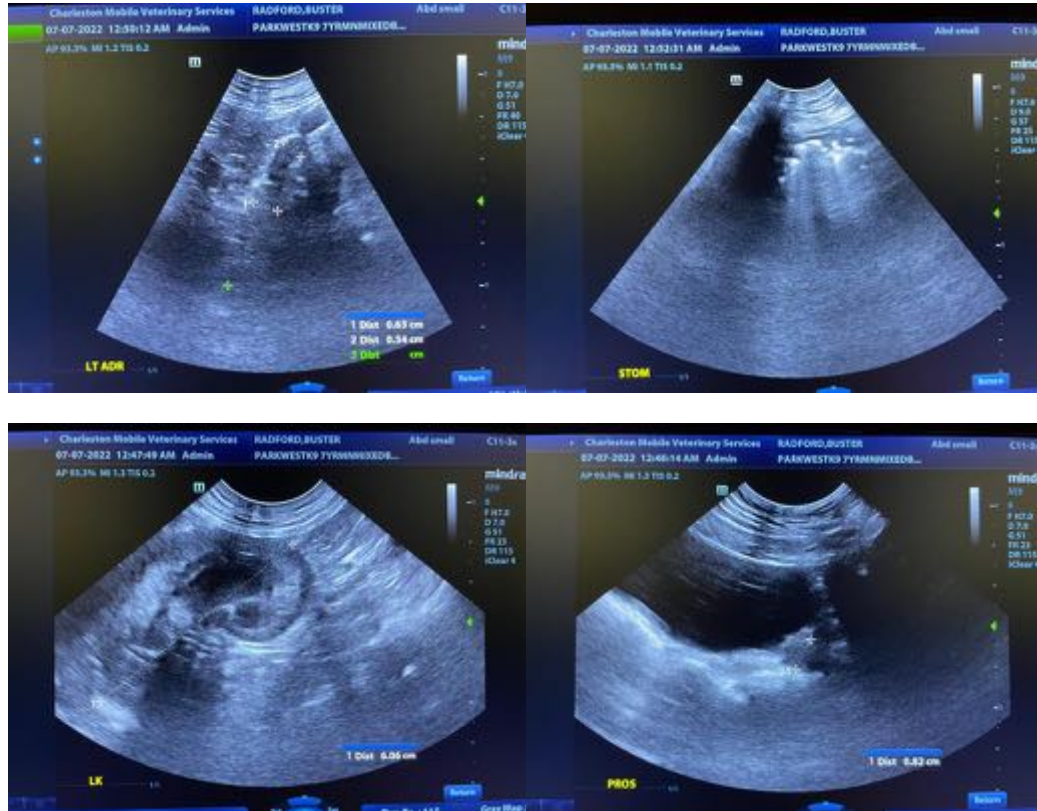
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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