**DATE PRESENTING CLINICAL SIGNS**

9.28.22 No clinical signs. Elevated liver values

**PATIENT** Current Medications: None.

Charlie Bankert Lab Results: Alk phos 541 in 2019, Alk phos 939 on 9/24/2021.  
 Alk phos 1349 on 8/28/2022. Alt normal to slightly above normal.  
 Rest of lab-work normal.

**SPECIES** Date of Previous IntraPet Ultrasound: No previous.  
 Sedation: Ace. Not required to complete full diagnostic ultrasound.  
 Canine Stat Report: Not requested.  
**BREED** Imaging Performed By: Rachel Brillhart, RDMS.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Chihuahua

**Urinary System**

**SEX** The **urinary bladder** and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone and the visible portion of the proximal urethra are normal.

Neutered Male

**AGE** The **prostate** is normal in size (1.02 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

1/1/2013

**WEIGHT** The **left kidney** is normal size (5.30 cm in length); with a slightly irregular shape and architecture with smooth peripheral margins. The cortex is mildly thickened and there is poor corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. Several, small cortical cysts are seen. Pinpoint hyperechoic foci are observed within the cortex. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

20 lbs

**INTERPRETED BY**

Andrea Nicastro, DMV,  
 Diplomate DACVIM  
 (Small Animal  
 Internal Medicine)

The **right kidney** is normal size (4.73 cm in length); with a slightly irregular shape and architecture with smooth peripheral margins. The cortex is mildly thickened and there is poor corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. Several, small cortical cysts are seen. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**HOSPITAL NAME**

Green Acres Pet  
 Center

**Adrenal Glands**

The **left adrenal gland** is upper limits of normal size (0.53 cm at cranial pole) (0.70 cm at caudal pole) (1.84 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.

**REFERRING VET**

Dr. Kaschenbach

The **right adrenal gland** is normal size (0.82 cm at cranial pole) (0.52 cm at caudal pole) (2.12 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.

**INVOICE**

11728

**Spleen**

The **spleen** is normal in size (1.46 cm in width at the level of the hilus) with a normal capsular contour. A light, micronodular pattern is observed throughout the parenchyma. No focal lesions are observed. Splenic vasculature is normal.

### **Liver**

The **liver** is subjectively enlarged with slightly swollen peripheral contours. The parenchyma is hyperechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.

The **gall bladder** lumen is moderately distended. The wall is thin and smooth. A small amount of aggregated, echogenic, suspended debris 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 base and right limb of the **pancreas** are visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic 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.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

- The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Inflammatory is considered less likely given the minimal ALT elevation. Infiltrative neoplasia is possible but also considered less likely based on the sonographic appearance of the liver.

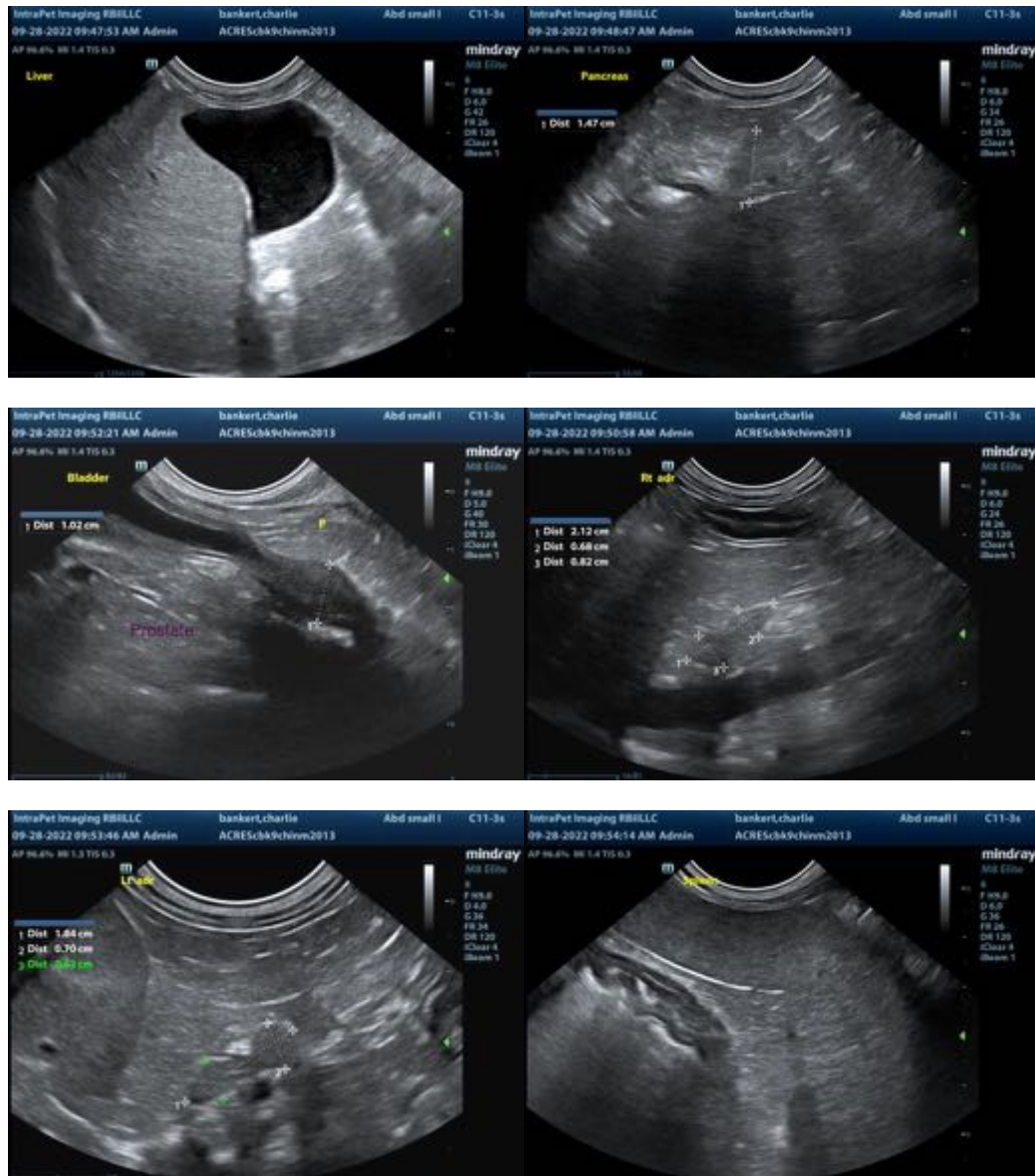
### **Secondary Findings**

- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- The splenic parenchymal changes are most consistent with a benign process such as lymphoid hyperplasia, extramedullary hematopoiesis, splenitis or antigenic stimulation with a low possibility of infiltrative neoplasia (i.e., lymphoma, mast cell neoplasia).
- The bilateral renal changes are most consistent with chronic interstitial nephrosis/nephritis with dystrophic mineralization and cortical cysts.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Serial monitoring (i.e, every 3-4 months) of the patient's liver values is recommended. If values continue to increase, a repeat abdomen ultrasound +/- a more advanced hepatic work-up (i.e., tissue sampling) may be warranted.

Consider testing for hyperadrenocorticism with a low-dose dexamethasone suppression test or ACTH stimulation test if clinical signs (i.e., PU/PD) develop.



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.

**Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)**  
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