

**DATE PRESENTING CLINICAL SIGNS**

10/18/22

Intermittent increase/decrease of ALT and ALP in the last year. This pet is reliant on NSAIDs as a part of managing severe arthritis. Developed proteinuria this year (has not been hypertensive)

**PATIENT**

Dexter Johnson

Current Medications: Benazepril, 10 mg, 1.5 po BID started 4/20/2022  
 -Telmisartan started 8/6/22 and stopped 8/24/22 after liver values increased, Apoquel 16 mg, 1/2 po SID first started in 2020, Gabapentin 100 mg, 1-2 caps PO q8-12h started 12/2021, Nexgard long term Heartgard long term, Cytopoint q 4-6 weeks started 9/2020, Adequan twice a week started 6/2022, Welactin (unsure when this was started)

**SPECIES**

Canine

Prilosec 20 mg SID started 1/2021  
 Lab Results: 10/13/22: ALT 159 U/L (prev 122 9/9/22), ALP 246 U/L (prev 236 9/9/22), UPC 1.0  
 Date of Previous IntraPet Ultrasound: 1/16/20. USG 1.038, inactive sediment. T4 normal.

**BREED**

Puggle

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Andi Parkinson, BS, RDMS.

**SEX**

Male, neutered

**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.

**AGE**

12/21/2009

**WEIGHT**

37 lbs.

The prostate is normal in size (0.91 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

**INTERPRETED BY**

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

The left kidney is normal size (5.19 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is slightly thickened. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

**HOSPITAL NAME**

Perry Hall AH

The right kidney is normal size (5.04 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is slightly thickened. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

**REFERRING VET**

Dr. Hatzigiannakis

**Adrenal Glands**

The left adrenal gland is normal size (0.60 cm at cranial pole) (0.63 cm at caudal pole) (2.02 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**

14112

The right adrenal gland is mildly enlarged (0.58 cm at cranial pole) (0.74 cm at caudal pole) (1.99 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 (1.71 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A few ill-defined hyperechoic nodules/areas are observed. Splenic vasculature is normal.

### *Liver*

The liver is subjectively prominent in size with slightly irregular peripheral margins on the left caudal aspect. The parenchyma is isoechoic relative to the spleen and subtly heterogeneous in appearance with a few ill-defined hyperechoic nodules on the left. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is distended. The wall is normal in thickness. A large amount of aggregated echogenic suspended sludge in a stellate pattern 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. No obstructive disease is noted.

### *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*

An ill-defined area of mesentery within the mid-abdominal region is hyperechoic. A small amount of anechoic free fluid is observed. The abdominal lymph nodes are normal/not visible.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings:**

- Gallbladder changes are consistent with a mucocele.
- The hepatic parenchymal changes are most consistent with a benign hepatopathy (i.e., regenerative nodular hyperplasia and/or vacuolar hepatopathy) with a lower possibility of emerging neoplasia or inflammatory disease.
- The reactive mesentery in the mid-abdominal region is suggestive of peritonitis, the cause of which is unclear. It may be secondary to resolving bowel or pancreatic pathology or some other etiology.

### **Secondary Findings:**

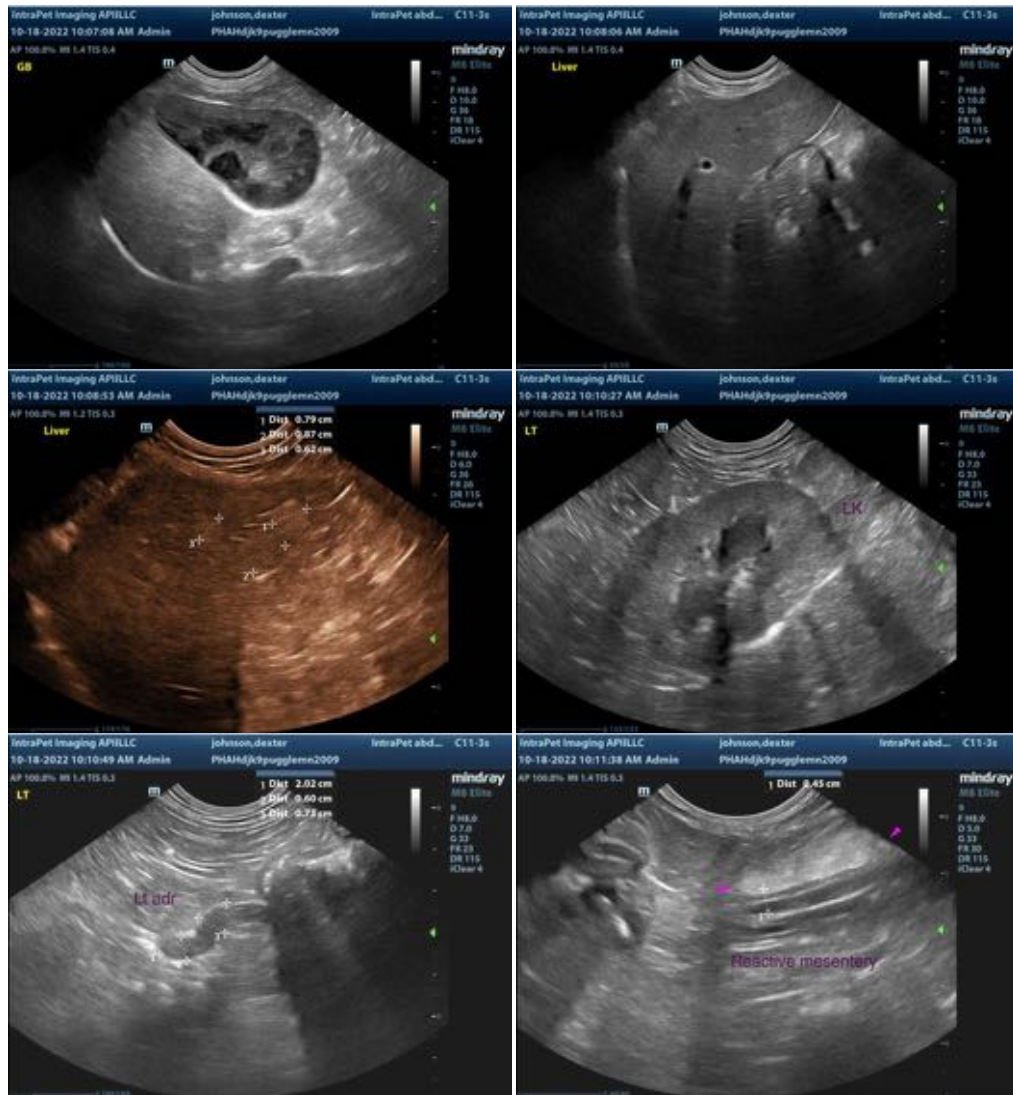
- The hyperechoic splenic lesions are most consistent with a benign process (i.e., myelolipomas) with a low possibility of emerging neoplasia.
- Bilateral non-specific chronic renal changes with dystrophic mineralization.
- The mild right adrenomegaly may be a normal variant for this patient or may represent early hyperplastic change.

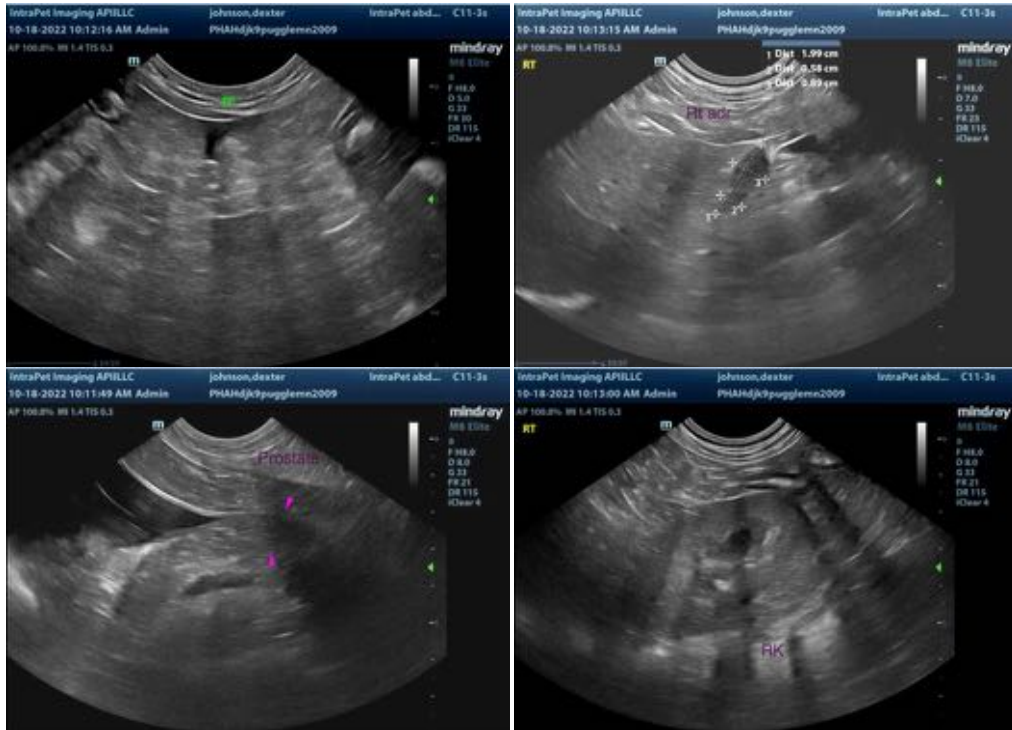
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Given the gallbladder changes, a cholecystectomy should be considered. If surgery is not pursued at this time, Ursodiol therapy is recommended with close sonographic monitoring (i.e., every 3-4 weeks) of the gallbladder to assess for progression. The client should be warned of the risk of

potential gallbladder rupture with subsequent bile/septic peritonitis. If surgery is pursued, a liver biopsy should be obtained.

- Regarding the proteinuria, serial monitoring of the patient's renal values, UPC and blood pressure is recommended to assess for progression of disease.





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.

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