



**DATE**  
10/17/22

**PRESENTING CLINICAL SIGNS**

History: Chronically elevated liver values.

**PATIENT**  
Biscuit May

Current Medications: Ursodiol 250mg ¼ SID.

Lab Results: 1/2020 ALP 541, ALT 197. 7/2020 ALP 1326, ALT 199. 10/2020 ALP 1500, ALT 192. 7/2021 ALP 1511, ALT 103. 4/2022 ALP >2000, ALT 356.

Date of Previous IntraPet Ultrasound: 7/16/20. See attached.

**SPECIES**  
Canine

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Warga RDCS, RVT.

**BREED**

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Chihuahua

**Urinary System**

**SEX**

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.

Neutered Male

**AGE**

The residual **prostate** was uniform, measuring 0.7 cm with some remodeling.

11/20/07

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some moderate 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. Nonobstructive mineralization was present in the kidneys. The right kidney measured 4.09 cm. The left kidney measured 4.51 cm. Hyperechoic cortical changes were noted in the left kidney with corticomedullary calculi, nonobstructive.

**WEIGHT**

4.99 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Adrenal Glands**

The **right adrenal gland** was persistently heterogenous and mildly irregular, measuring 1.98 cm x 0.79 cm at the cranial pole and 0.74 cm at the caudal pole.

**HOSPITAL NAME**

Banfield Columbia

The **left adrenal gland** was mildly heterogenous and mildly irregular, measuring 1.92 cm x 0.72 cm at the caudal pole and 0.67 cm at the cranial pole.

**Spleen**

**REFERRING VET**

Dr. Landon

The **spleen** was normal size and relatively normal contour with mild multifocal hyperechoic areas of mineralization. This is a benign change; however, can be related to Cushing's disease or other endocrinopathies.

**INVOICE**

17806

**Liver**

The **liver** revealed similar changes to the prior sonogram with multifocal heterogenous parenchymal changes, nondisruptive, nodular hyperplasia pattern. Some striating bile and overdistention of the gallbladder was noted, consistent with immature mucocele. An anechoic cyst was noted in the caudal aspect of the left liver, measuring 1.17 cm.

**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**

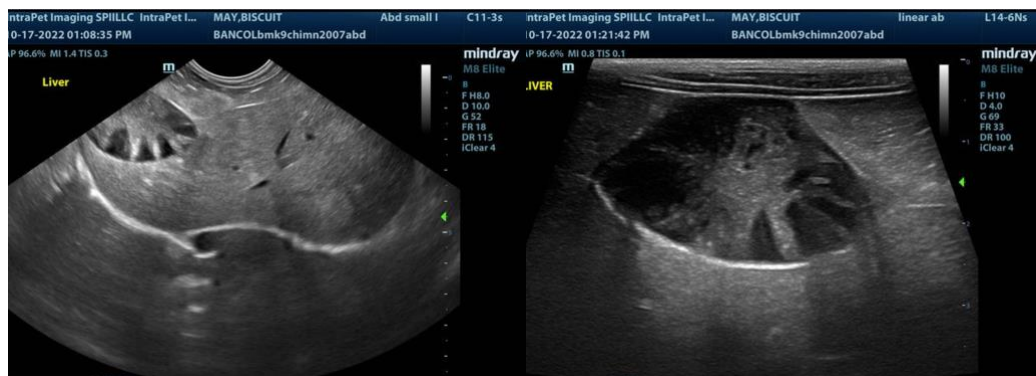
The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some mild parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

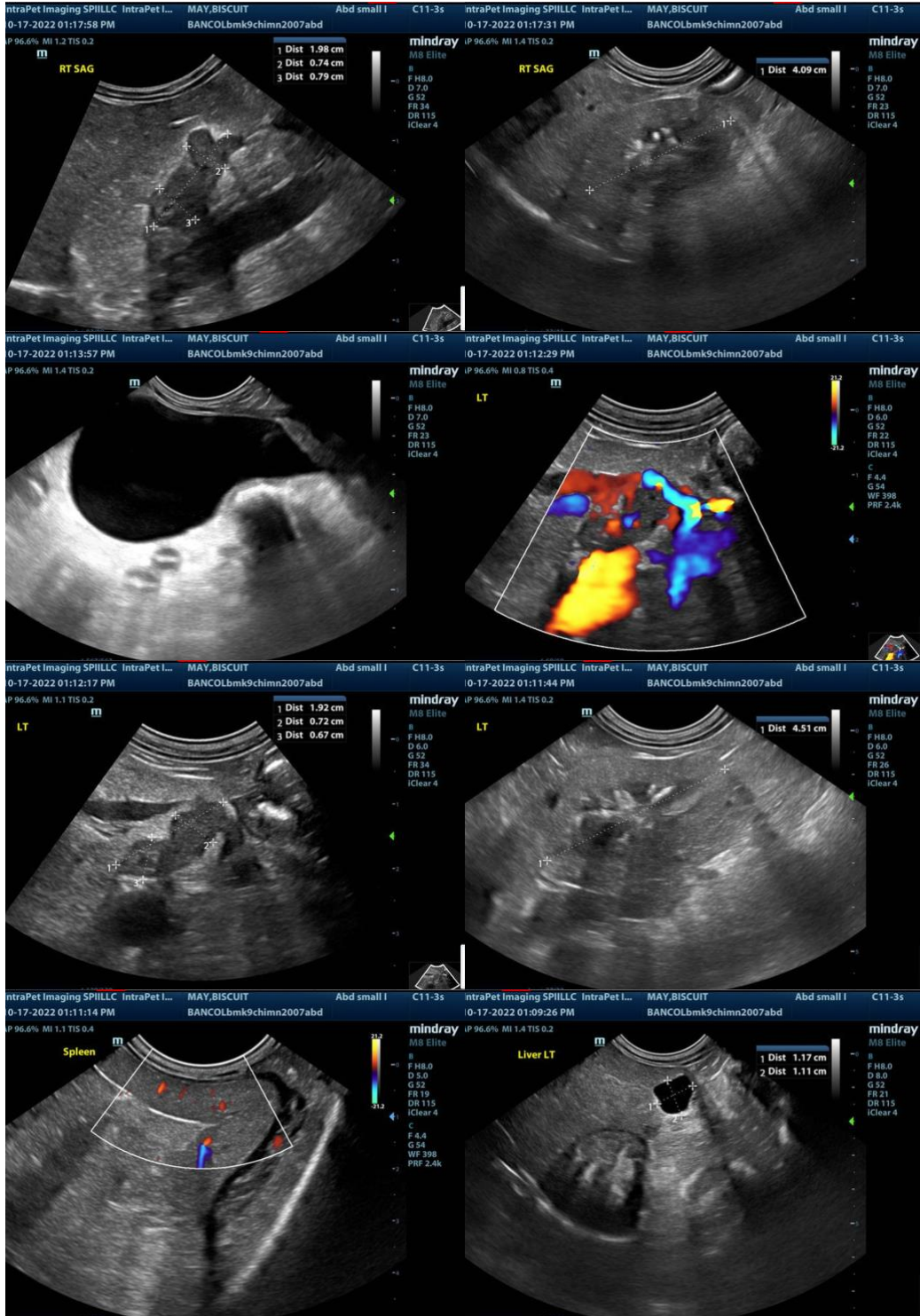
### **ULTRASONOGRAPHIC FINDINGS**

- Hepatic remodeling, similar to the prior sonogram with immature gallbladder mucocele
- Moderate degenerative renal changes with nephrolithiasis (nonobstructive) and minor cortical cysts in both kidneys
- Heterogenous adrenal glands- upper limits of normal size
- Splenic mineralization
- Age-related pancreatic changes
- Some remodeling in the residual prostate

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

Potential for underlying PDH. If the patient appears cushingoid and urine spec grav is  $<1.020$ , then work up for PDH is indicated. Ursodiol therapy should be continued. The gallbladder should be monitored periodically, every 3-6 months or earlier if rapid rise in ALP develops or other liver enzyme elevations. Degenerative changes in the kidneys are considered moderate. Blood pressure measurements are warranted. No evidence of phrenic vein or vena cava invasion from either adrenal gland, however, heterogenous irregular changes are present.







**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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