

**DATE PRESENTING CLINICAL SIGNS**

5/5/23

History: Pet just recently tested positive for Cushings disease- PDH. Historically had enlarged left adrenal gland- nodule observed at cranial aspect; 3/6 systolic murmur- degenerative valve disease

**PATIENT**

Nina Rulli

Current Medications: Vetoryl 5mg SID, Pimobendan 1.25mg BID

Lab Results: 3/30/23 ALT 149, ALK PHOS 1227, CHOL 354. 5/2/23: Cortisol 1: 9.7, Cortisol 2: 1.3, Cortisol 3: 2.5

**SPECIES**

Canine

Date of Previous IntraPet Ultrasound: 6/22/21. See attached.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**BREED**

Maltese

Imaging Performed By: Rachel Brillhart, RDMS.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Spayed Female

**Urinary System**

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.

**AGE**

7/1/12

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some minor 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 4.08 cm. The left kidney measured 4.08 cm.

**WEIGHT**

10.8 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Adrenal Glands**

The **right adrenal gland** was 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 1.86 cm x 0.52 cm at the cranial pole and 0.56 cm at the caudal pole.

**HOSPITAL NAME**

Jacksonville VH

The **left adrenal nodule** has increased to 1.27 cm x 0.93 cm. Capsular expansion was noted without capsular escape or vascular invasion. The left adrenal gland measured 0.58 cm.

**REFERRING VET**

Dr. Kablis

**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 were noted.

**INVOICE**

22340

**Liver**

Exam of the cranial abdomen demonstrated excessive **liver** size, swollen contour, with conserved uniform architecture. Parenchymal echogenicity was diffusely isoechoic to the spleen and falciform fat. This type of liver presentation typically is associated with slow and gradual SAP elevations with low-grade ALT rise. USG-FNA sampling is encouraged if more aggressive LE profiles are present such as ALT > 200 or rapid rise

in SAP. These presentations are usually reactive hepatopathies owing to other disease processes either endocrine (Diabetes, Hypothyroidism, Cushing's disease), "antigen surveillance" from the gut/pancreas, or idiopathic breed predisposed progressions. This is a mild change.

The **gallbladder** was overdistended with striating and adhered bile consistent with emerging mucocele.

### ***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***

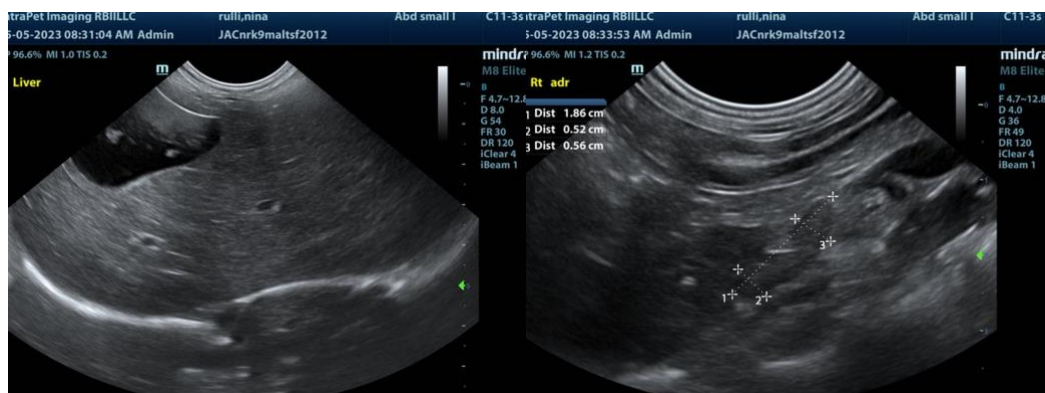
The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

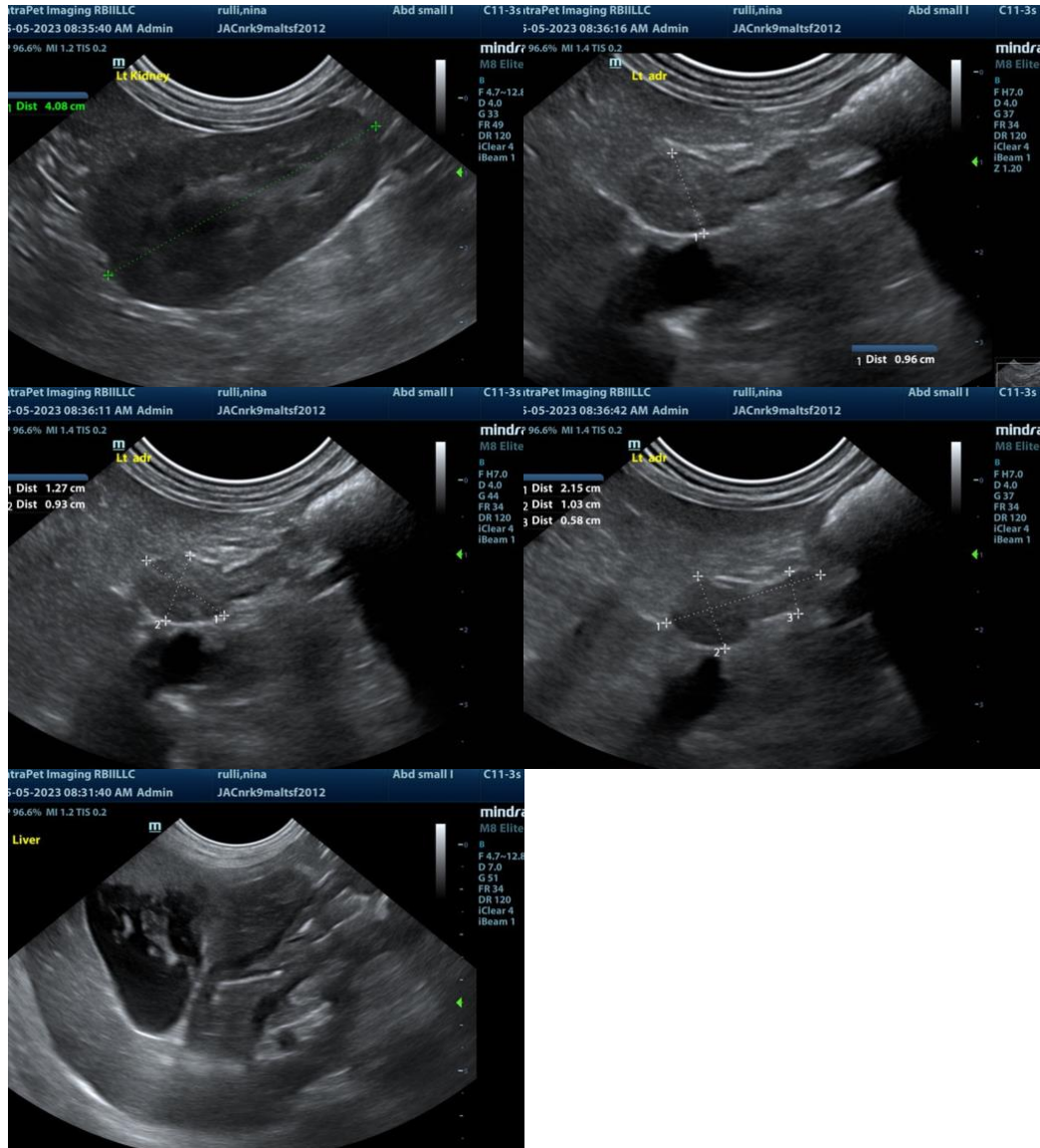
## **ULTRASONOGRAPHIC FINDINGS**

- Pronounced left adrenal gland nodule, increased in size by approximately 20-30%.
- Subjectively benign hepatopathy with excessive gallbladder debris
- Age-related renal changes

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

Concern for adenoma, possible adenocarcinoma or pheochromocytoma of the left adrenal gland is warranted. Serial blood pressures are indicated. If urine specific gravity is  $<1.020$ , then work up for adrenal dependent Cushings is indicated. Gallbladder motility study would be ideal, or direct left adrenalectomy and manual expression of the gallbladder could also be considered, especially if rendered clinically concerning based on the clinical status of the patient.





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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
 info@SonoPath.com