

**DATE PRESENTING CLINICAL SIGNS**

2/20/23

History: PU/PD, Increased appetite and weight gain. Grade 2/6 systolic murmur LPMI. Significant proteinuria. Abnormal looking tip of spleen on in house sonogram. Localized pneumonia right anterior lung lobe.

**PATIENT**

Lexi Bradshaw

Current Medications: Enrofloxacin 68mg SID

Lab Results: Significant proteinuria.

Radiographs: Abnormal looking tip of spleen on in house sonogram. Localized pneumonia right anterior lung lobe

**SPECIES**

Canine

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

**BREED**

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS

Mini Schnauzer

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

Spayed Female

**Urinary System**

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**AGE**

7/9/15

Left kidney is normal is size (4.72 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**WEIGHT**

24.3 Pounds

Right kidney is normal is size (5.43 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

Left adrenal gland is normal in size (2.55 cm long x 1.21 cm at cranial pole and 0.57 cm at caudal pole). In the cranial pole of the left adrenal gland, a hyperechoic nodule is noted, resulting in a plump hyperechoic cranial nodule with normal shape and contour maintained and no evidence of capsular invasion, escape or vasculature invasion noted. The caudal pole maintains a normal appearance.

**HOSPITAL NAME**

Parkville AH

Right adrenal gland is normal in size (2.54 cm long x 0.96 cm at cranial pole and 0.6 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**REFERRING VET**

Dr. Mangini

**Spleen**

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**INVOICE**

21215

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

### ***Gastrointestinal***

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

### ***Pancreas***

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

## **ULTRASONOGRAPHIC FINDINGS**

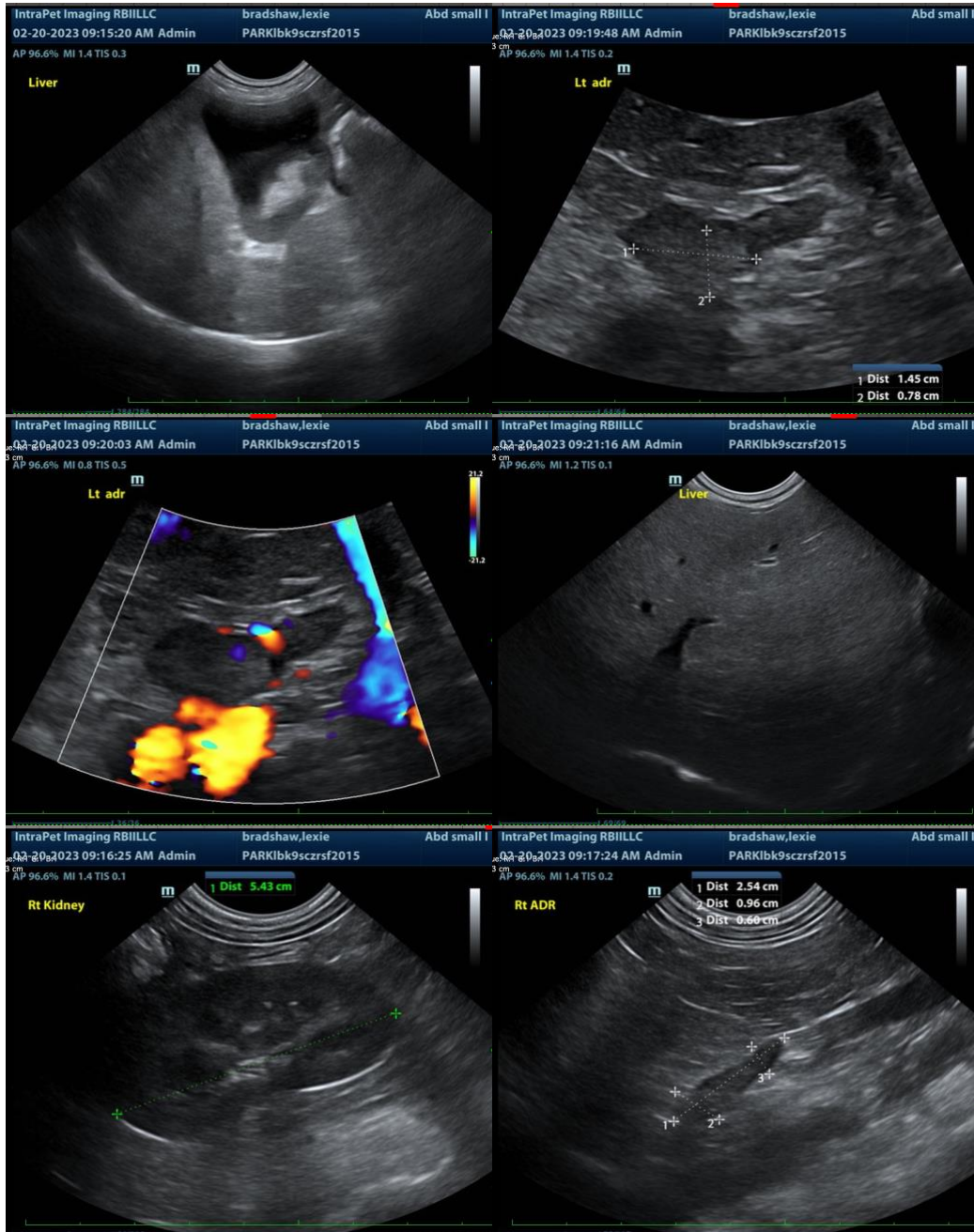
- Left adrenomegaly, primarily at the cranial pole- Differentials for which include normal patient variant or stress vs adrenal hyperplasia secondary to pituitary hyperadrenocorticism or an adrenal adenoma. An early pheochromocytoma or even adenocarcinoma can't be ruled out but are considered less likely.
- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- Mild gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

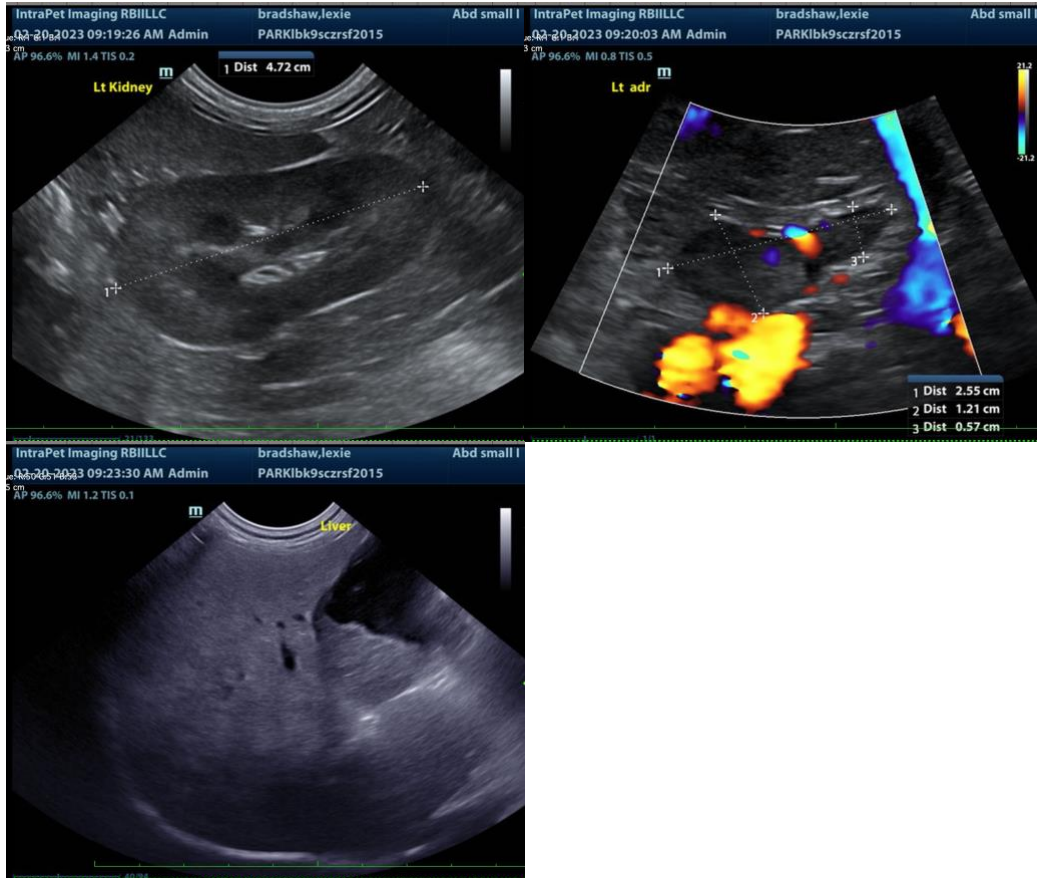
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

To begin with, further quantification of the reported proteinuria is recommended with a urine protein to creatinine ratio. Additionally, a blood pressure is recommended if not recently evaluated.

Given this patient's reported clinical signs and the appearance of the left adrenal gland, hyperadrenocorticism is a top differential, however, this patient's concurrent pneumonia/other illness should be addressed/managed/treated prior to further work up of hyperadrenocorticism to prevent false positive diagnosis. At that time, a LDDST is recommended to try to diagnose hyperadrenocorticism, and hopefully differentiate definitively adrenal vs pituitary. If the low dose does not differentiate, a follow up endogenous ACTH level could be considered. Based on the ultrasonographic appearance of the adrenal

glands, adrenal dependent appears slightly more likely, but pituitary dependent cannot be ruled out.





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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