

**DATE PRESENTING CLINICAL SIGNS**

8/15/23

ADR since last week, Vomiting over the weekend, on Amoxi/clav over the weekend, Today, dehydrated azotemia, elevated liver values ALT and ALKP. Colon is hypermotile on radiographs, liver and spleen have areas of mottling likely masses in both.

**PATIENT**

Camden Diacoggiannis

Current Medications: Metronidazole 150mg IV BID, Famotidine 7.5 mg BID IV BID, Cerenia 15mgIV SID, Ampicillin 300mg IV BID.

**SPECIES**

Canine

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Andi Parkinson, BS, RDMS.

**BREED**

Cockapoo

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

Neutered Male

**Urinary System**

The urinary bladder is moderately 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**

3/25/11

Prostate is normal in size, echotexture and echogenicity for a neutered male.

**WEIGHT**

33 Pounds

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. Multiple small cortical cysts are noted bilaterally. The left kidney measured 5.7 cm. The right kidney measured 5.71 cm.

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**Adrenal Glands**

The right adrenal gland is normal in size (1.0 cm at the cranial pole and 1.0 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Timonium AH

The left adrenal gland is enlarged (3.2 cm x 2.0 cm) with markedly heterogenous parenchymal changes. Capsular escape with vascular invasion is noted, with the caudal vena cava luminal echogenic contents measuring 5.2 cm long x 3.3 cm thick. The left adrenal gland mass and caval invasion is surrounded by enhanced hyperechoic mesenteric fat.

**REFERRING VET**

Dr. Gernhart

**Spleen**

The 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). A 1.0 cm x 0.80 cm hypo- to anechoic non-capsule disrupting nodule is noted in the mid spleen. Splenic vasculature appears normal.

**INVOICE**

44671

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is moderately heterogenous characterized by multiple poorly defined hypoechoic nodules as well as more discrete homogeneous hyperechoic nodules within an overall hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as 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 stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) 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 (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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 (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### ***Pancreas***

The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

There is no evidence of heart base or pericardial pathology noted in these images at this time. If cardiac function evaluation is desired a full echocardiogram is recommended.

## **ULTRASONOGRAPHIC FINDINGS**

- **Left adrenal mass with vascular invasion** – most concerning for infiltrative neoplasia with top differentials including an adenocarcinoma versus potential pheochromocytoma versus other. Benign disease is possible but considered much less likely, given the apparent vascular invasion.
- **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.
- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.
- Age related kidney changes with small bilateral cortical cysts.

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

Given this patient's reported azotemia, if not recently evaluated, a urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

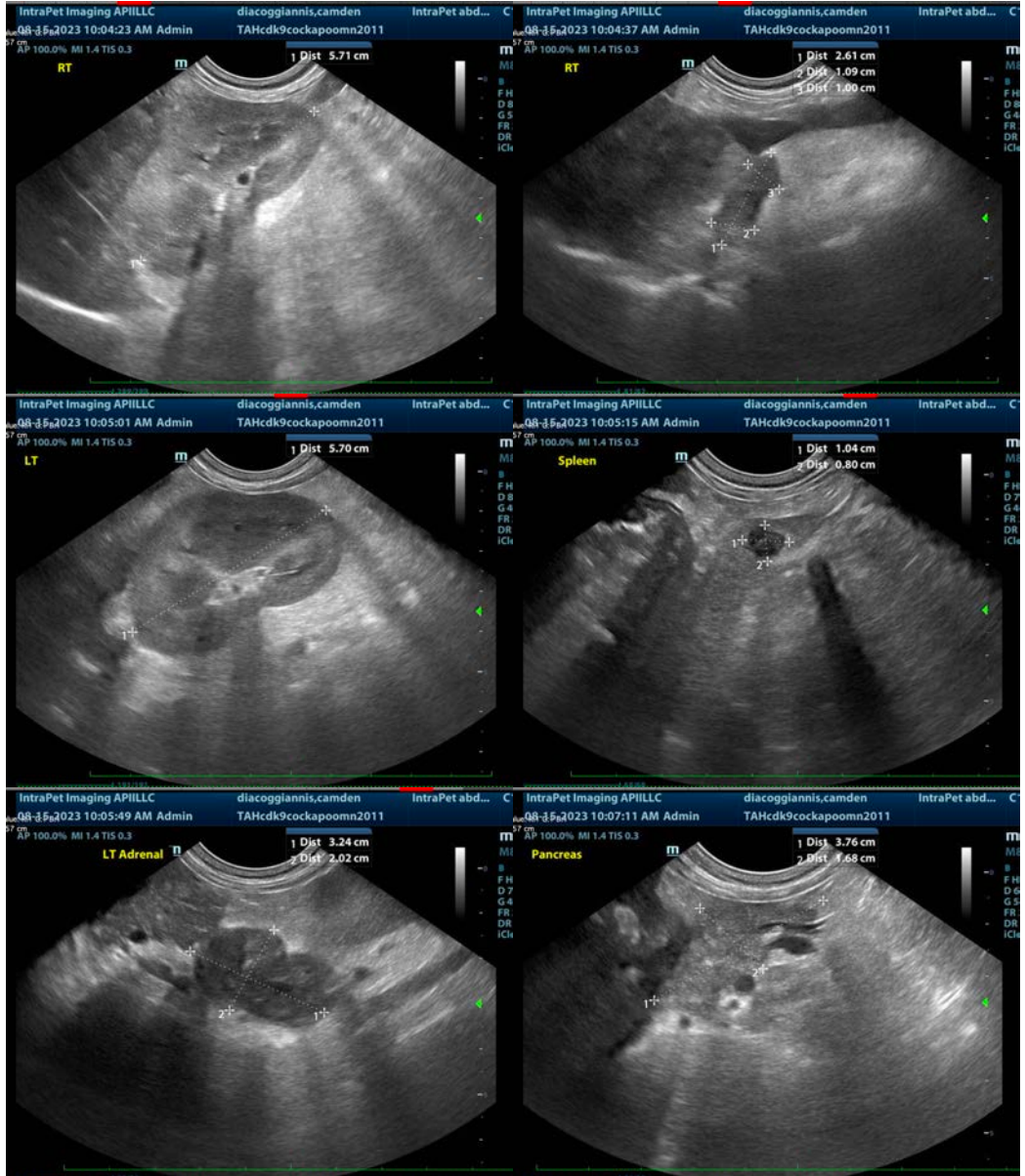
Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

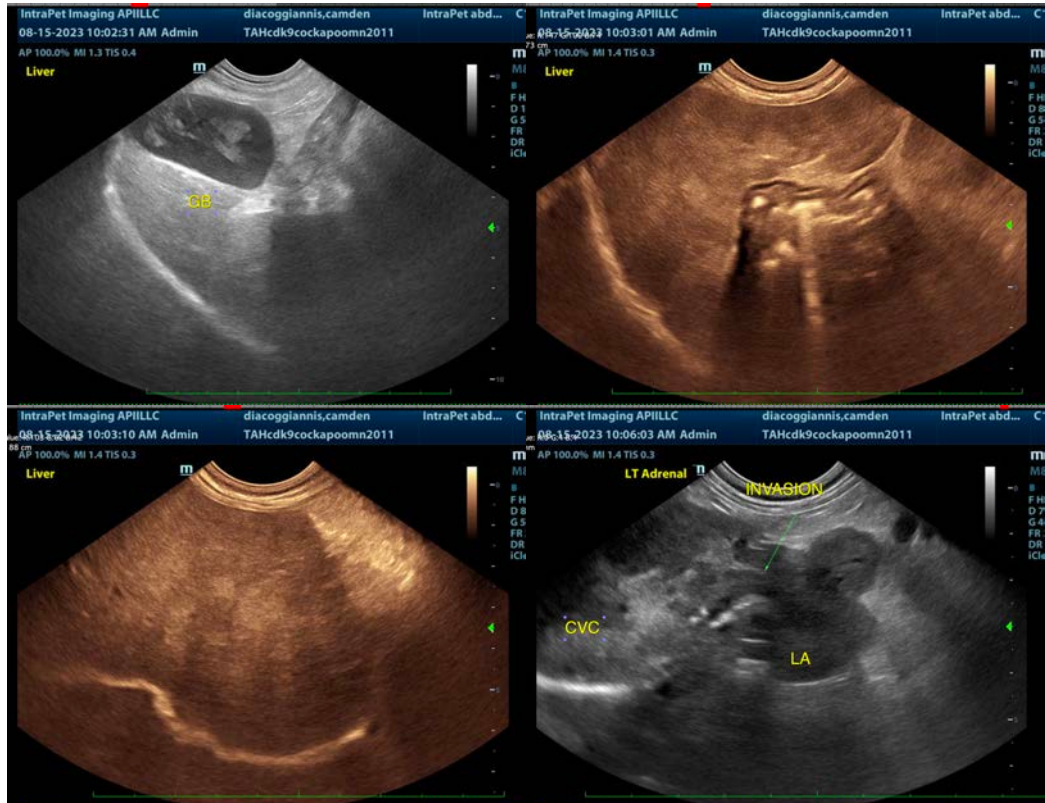
A blood pressure is recommended.

Adrenal cortical hormone testing could be considered, beginning with a low-dose Dexamethasone suppression test. However, regardless of hormone levels, ultimately, given the concern for malignancy, a left adrenalectomy is recommended. If surgery is elected, a pre-surgical planning and further met check abdominal CT scan could be considered.

The appearance of both the spleen and liver trend toward benign in appearance. However, pending the elected plan for this patient, additionally fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate.







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.

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