

**DATE PRESENTING CLINICAL SIGNS**

11/15/22

Acute, dramatic hypertension of 200-220 mmHg. Patient is showing some neurologic changes such as mild head tilt and episodes of "not acting right," that are similar to focal seizure. Brief episodes of paresis/ataxia. Monitoring MVD, LA enlargement, pulmonary hypertension. Proteinuric (normal serum protein)

**PATIENT**

Daisy McGlone

Current Medications: Telmisartan 20 mg 1/4 tab po sid started 10/15/22, benazepril 5 mg 1 po bid started 5/19/22, vetmedin 1.25 mg 1 po bid started 10/21/2020, cefpodoxime course 100 mg 1/2 po sid x 10 days, started 10/3, cosequin

**SPECIES**

Canine

Lab Results: chronic elevation ALP, recent increase of ALT, mild non-regenerative anemia, recent UTI and after therapy free catch showed persistent RBC (concern for renal tract bleeding). BP was in the 150-170 range for a long time and with mild response to benazepril, but in Sept 220 mmHg

**BREED**

Pomeranian X

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Torbugesic/Midazolam.

Stat Report: Not requested.

**SEX**

Spayed Female

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

Urinary bladder is adequately distended with primarily anechoic contents. There is a solitary sessile heterogenous, vascular mass lesion along the dorsal wall, measuring 3.1 cm long x 1.6 cm thick. No cystoliths are observed.

**AGE**

9/15/07

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 or infarcts observed. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted. The right kidney measures 4.68 cm. The left kidney measures 4.73 cm.

**WEIGHT**

12.5 Pounds

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

Adrenal glands are largely normal in size, shape and contour. Some parenchymal heterogeneity is present without concerning capsular distortion. These changes are likely normal for this age but should be monitored if there is any suspicion of adrenal disease. The right adrenal gland measures 1.99 cm long x 0.69 cm at the cranial pole and 0.48 cm at the caudal pole. The left adrenal gland measures 1.55 cm long x 0.46 cm at the cranial pole and 0.60 cm at the caudal pole.

**IMAGING PERFORMED BY**Stephanie Warga  
RDCS, RVT**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 1.2 cm x 0.8 hypo- to anechoic mid body, non-capsule disrupting nodule was noted. Splenic vasculature appears normal.

**HOSPITAL NAME**

Perry Hall AH

**REFERRING VET**

Dr. Hatzigiannakis

**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.

**INVOICE**

42717

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 pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. 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.

## **PRIMARY FINDINGS**

- **Urinary bladder mass** – Urinary bladder wall changes are most concerning for infiltrative neoplasia such as transitional cell carcinoma vs other. Benign inflammatory disease (cystitis) cannot be ruled out but is considered less likely given the location and appearance of the tissue.
- **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.

## **SECONDARY FINDINGS**

- **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.
- Age related kidney changes with non-obstructive dystrophic mineralization bilaterally
- Age related adrenal gland changes

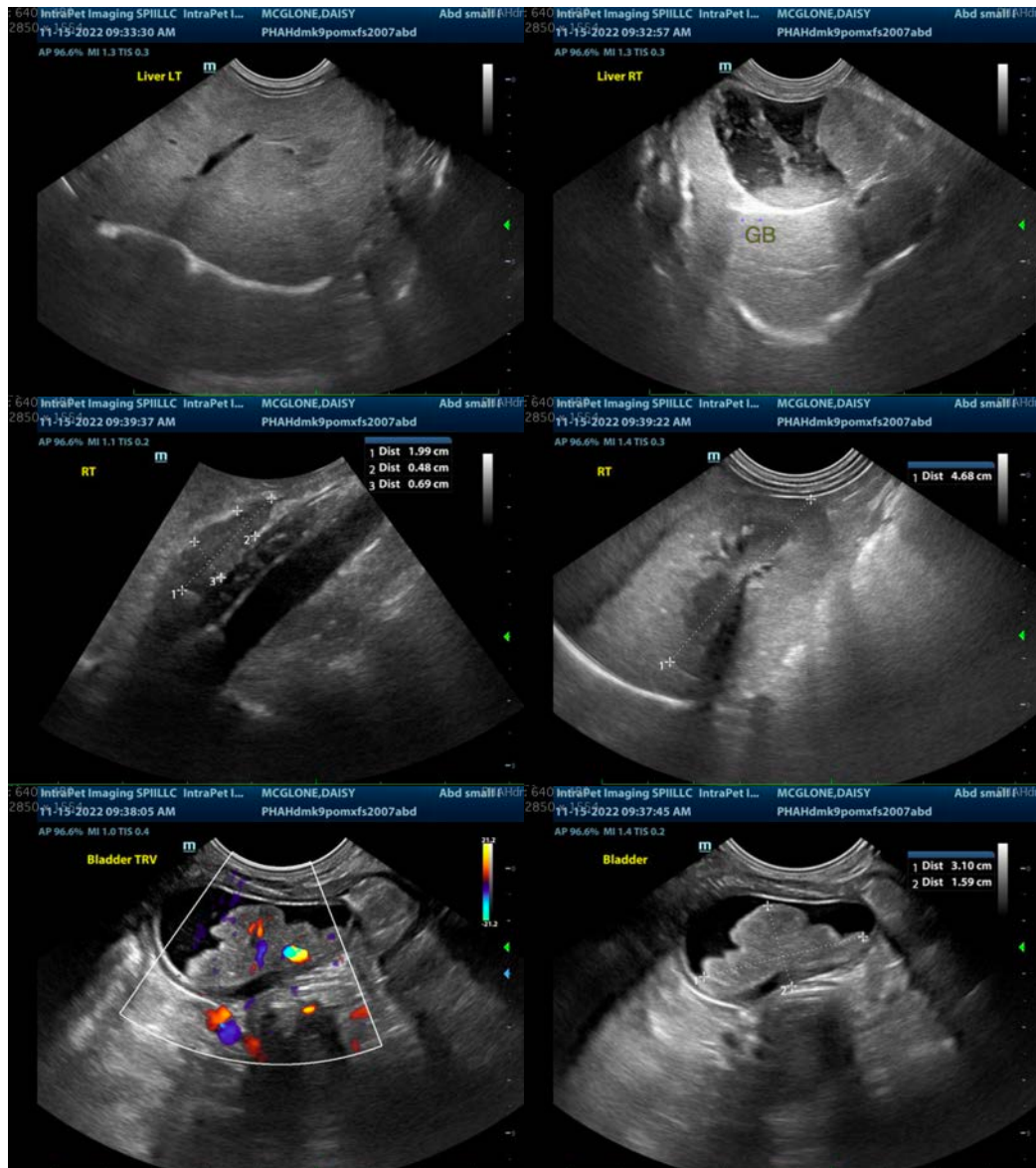
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

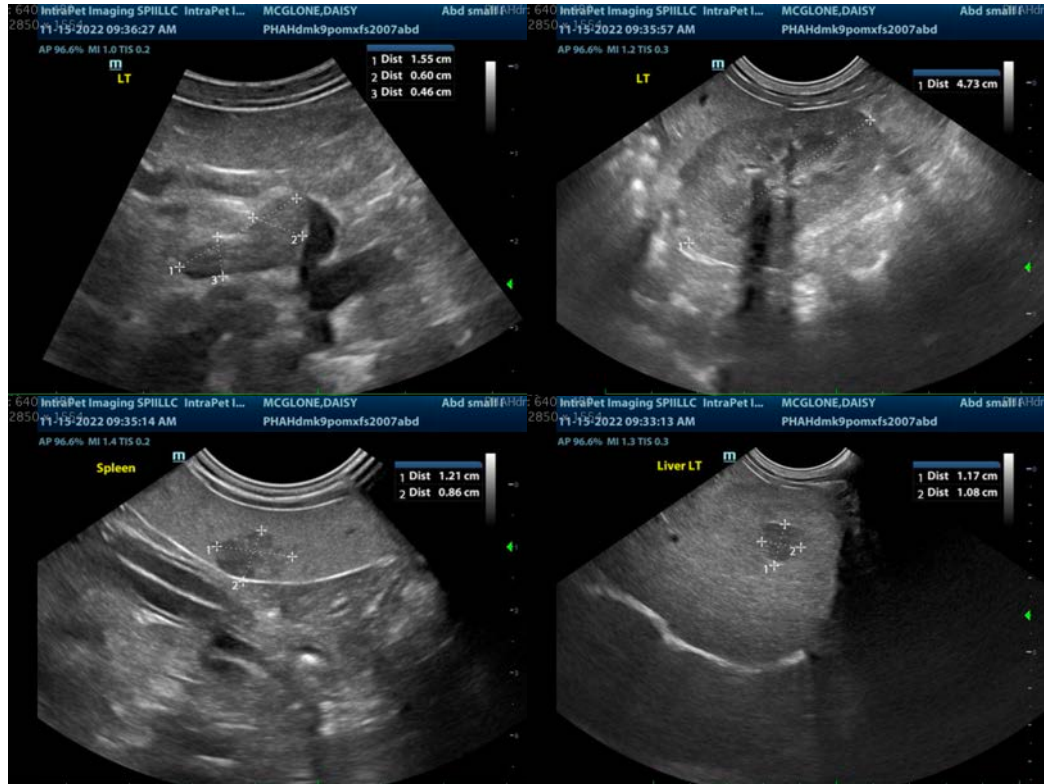
Urinalysis and urine culture, if indicated based on urinalysis results, are recommended. Submission of urine to look for BRAF gene mutation, which is associated with urinary bladder cancer, could be considered. Other

diagnostic options include traumatic catheterization, fine needle aspirate (with small risk of tumor seeding/trailing) or cystoscopy for further sampling.

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.

There is no ultrasonographically visible evidence of adrenal disease to explain this patient's hypertension, and the suspicion is that the hypertension is secondary to early kidney disease, given the concurrent reported historical PLN. However, if other clinical signs of hyperadrenocorticism are present, testing in the form of a low-dose Dexamethasone suppression test could be considered. In the meantime, the addition of Amlodipine to the patient's current PLN therapy, for hypertension, is recommended.





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.

**Beth Johnson, DVM, DACVIM**  
Beth.Johnson@sonopath.com