

**DATE**

7/25/22

**PRESENTING CLINICAL SIGNS****PATIENT**

Allison Bowings

History: Pet presented on 7/18 for foul odor from nose and mouth with chronic rubbing face. PE revealed possible mass under tongue on left side of mouth but pet very resistant to exam. Heavy dental disease noted. Discussed sedated oral exam +/- biopsy pending findings so ran BW which revealed significantly elevated liver enzymes. Blood panel done 1-1.5 years ago revealed elevated ALKP at 9856.

**SPECIES**

Canine

Current Medications: Clavamox 125 mg BID, Carpaquin 37.5 mg SID (recomm discontinue after seeing blood results).

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Pearce RDCS, RVT.

**BREED**

Dachshund

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

Spayed Female

**Urinary System**

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.41 cm). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

**AGE**

4/22/08

Left kidney is normal is size (4.79 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**

20.4 Pounds

Right kidney is normal is size (5.31 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**

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Some parenchymal heterogeneity is present without concerning capsular distortion, consistent with a normal aging change. Visible surrounding vasculature appears normal. The left adrenal gland measures 3.19 cm long x 0.87 cm at the cranial pole and 1.05 cm at the caudal pole. The right adrenal gland measures 2.22 cm long x 0.7 cm at the cranial pole and 0.99 cm at the caudal pole.

**HOSPITAL NAME**

Essex Middle River VC

**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.

**REFERRING VET**

Dr. Franchini

**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. A 3.0 cm x 4.0 - 4.5 cm hyperechoic, mildly heterogeneous vascular mass is present in the left mid liver.

**INVOICE**

16534

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 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. 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 peritoneal effusion. There is no apparent lymphadenopathy.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

- 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. A discreet heterogenous hyperechoic vascular liver mass is concerning for infiltrative primary hepatic neoplasia versus round cell neoplasia versus metastatic disease. Benign lesion, such as nodular hyperplasia, can't be ruled out without tissue sampling.
- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- 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.

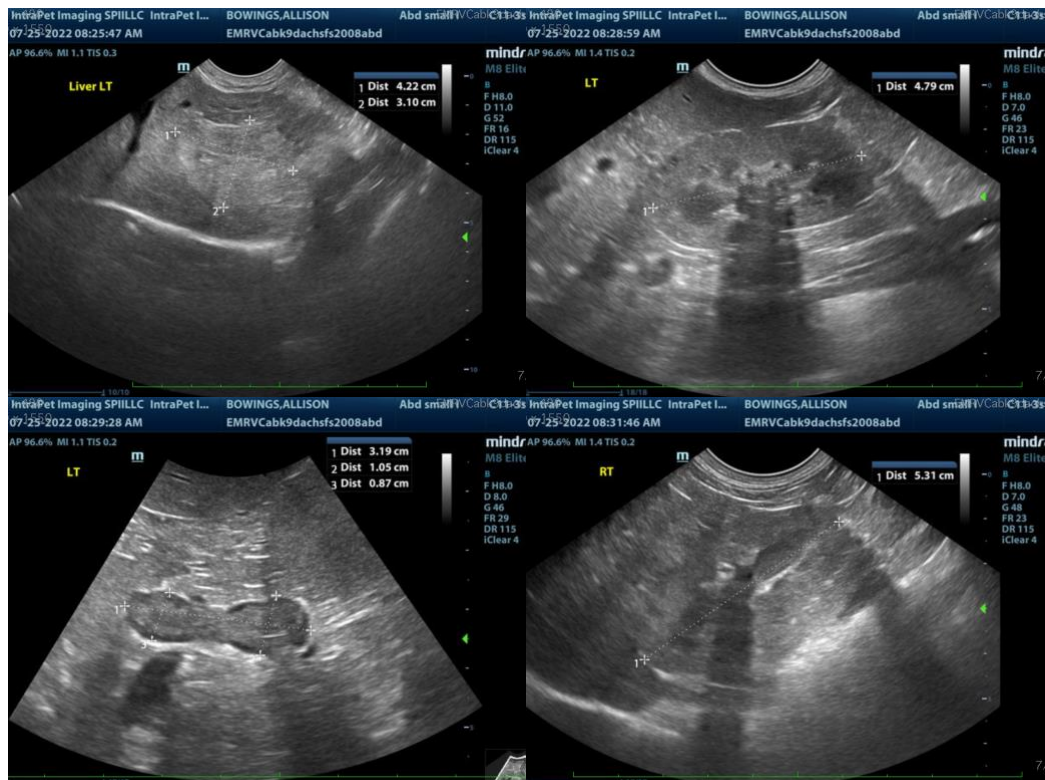
### **Secondary Findings**

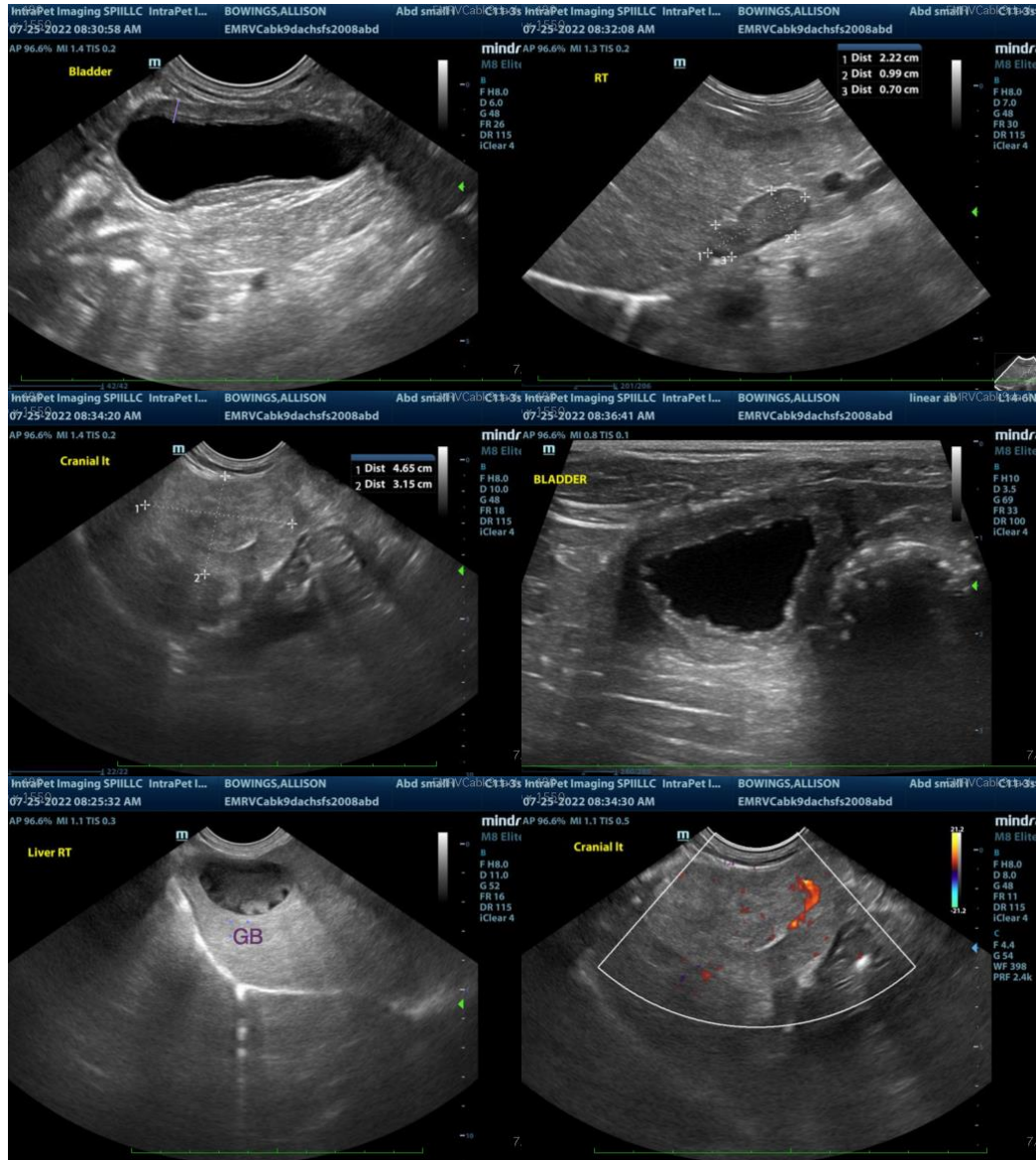
- Chronic Cystitis - Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.
- Pancreatic age-related remodeling – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

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

Recommendations for this patient include:

- 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 fine needle aspirate of the liver mass is recommended, potentially at the same time as the reported oral mass biopsy is scheduled, if patients coagulation status is appropriate.
- 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 ration is recommended.
- Ultimately, pending the results of the oral mass and liver mass workup, if clinical signs of hyperadrenocorticism are present, testing for hyperadrenocorticism could be considered in the form of a low dose dexamethasone suppression test in the future, however, it's not recommended to test for hyperadrenocorticism in the face of concurrent illness or if clinical signs 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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