

**DATE PRESENTING CLINICAL SIGNS**

3/7/22

Abnormal BG, Prostate, liver. Actioning Ursodiol, Tracking GB, prostate, liver, etc.

**PATIENT**

Moe Guins

Current Medications: Continuing Denamarin, Amoxicillin 100mg BID trial started early December, Adding Ursodiol 125mg SID. Gabapentin 100mg 2 hours prior to scan.

Lab Results: Previous 10/27/21- AST 77, ALT 437, ALKP 3360, GGTP 32, Ca 12.3, Chol 524, TG 474, PSL 235.

Date of Previous IntraPet Ultrasound: 11/29/2021. See attached.

**SPECIES**

Canine

Sedation: Torbugesic and Midazolam. Do not recommend for future sedation. Pet remained vocal and mobile during scan.

Stat Report: Not requested.

Imaging Performed By: Stephanie Pearce RDCS, RVT.

**BREED**

Maltipoo

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

Male, neutered

**Urinary System**

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with mostly anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

**AGE**

5/6/2008

The prostate is prominent in size (1.41 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

**WEIGHT**

18.4 lbs.

The left kidney is normal size (5.35 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. 1-2 small cortical cysts are observed at the caudal aspect. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

**INTERPRETED BY**

Andrea Nicastro, DVM,  
 Diplomate ACVIM  
 (Small Animal Internal  
 Medicine)

The right kidney is normal size (5.30 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

**HOSPITAL NAME**

Eastern AH

**Adrenal Glands**

The left adrenal gland is mildly enlarged (0.67 cm at cranial pole) (0.72 cm at caudal pole) (2.32 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**REFERRING VET**

Dr. Warner-Jones

The right adrenal gland is mildly enlarged (0.85 cm at cranial pole) (0.75 cm at caudal pole) (2.37 cm in length) with a slightly irregular shape. A 1.24 x 0.90 cm irregular hyperechoic nodule is observed at the cranial aspect. The nodule causes slight capsular expansion. The glandular echogenicity and detail at the caudal aspect are unremarkable. The phrenicoabdominal vein and surrounding vasculature appear normal.

**INVOICE**

13083

**Spleen**

The spleen is normal in size (1.08 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

**Liver**

The liver is subjectively prominent in size with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen. An ill-defined, irregular (0.71 cm) ill-defined, irregular hyperechoic nodule is observed

on the left side. In addition, a 1.20 x 0.96 cm cyst is observed on the right. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of aggregated echogenic suspended sludge in a partially stellate pattern is observed within the lumen. The cystic and common bile ducts are normal/not seen.

### ***Gastrointestinal***

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is gas distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

### ***Pancreas***

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

### ***Free Abdomen***

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings:**

- The gallbladder changes are consistent with a developing mucocele.
- Non-specific diffuse hepatopathy. Top differentials include vacuolar hepatopathy and regenerative nodular hyperplasia. However, inflammatory disease, copper hepatotoxicosis or other hepatopathies cannot be completely excluded. Small hepatic cyst, likely incidental. The hyperechoic hepatic nodule trends toward the benign (i.e., regenerative nodule) with a lower possibility of emerging neoplasia.
- Bilateral mild adrenomegaly. The right adrenal nodule trends toward the benign (i.e., nodular hyperplasia). However, an emerging neoplastic process cannot be completely excluded.

### **Secondary Findings:**

- Minor, age-related renal changes.
- Age-related pancreatic remodeling +/- fibrosis. Mild chronic pancreatitis is also possible, particularly if the patient exhibits a positive Murphy's sign.
- Mild prostatomegaly. Differentials include late in life neutering, normal variation, emerging neoplasia, other.

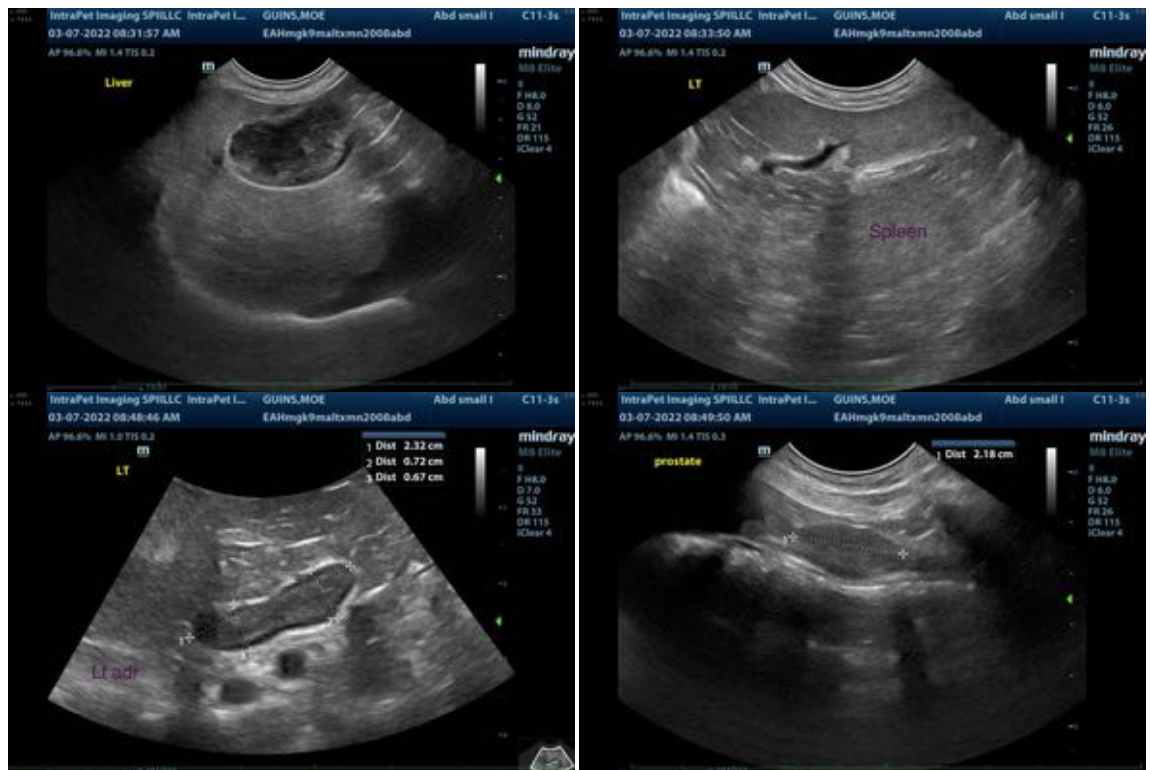
\*Overall, all changes are similar to the previous sonogram.

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

- Repeat bloodwork (i.e., CBC, chemistry panel, urinalysis, T4) is recommended to assess for further

elevations in the liver values and calcium level. If liver values are increasing, particularly the ALT, hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy) may be warranted.

- Given the gall bladder changes, Ursodeoxycholic acid (Ursodiol) at 10-15 mg/kg once a day is recommended. Serial sonographic monitoring (e.g., every 4-6 weeks) of the gall bladder is recommended to assess for progression to a fully-formed mucocele. Alternatively, a prophylactic cholecystectomy along with a liver biopsy can be considered. If surgery is pursued, referral to a board certified surgeon is recommended due to the potential for perioperative complications.
- If hypercalcemia is still present, an ionized calcium/PTH/PTHrP should also be considered.
- Consider testing for hyperadrenocorticism with a low-dose dexamethasone suppression test or ACTH stimulation test if clinical signs (i.e., PU/PD) develop.
- Given the mild prostatomegaly, urine BRAF test can be considered to further evaluate for lower urinary tract neoplasia.







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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