



**PATIENT PRESENTING CLINICAL SIGNS**

Gizmo Morgan Owners were told to watch out for pu/pd and weight gain as signs of Cushing's due to patient's history of elevated liver enzymes since 8/2019. Owners are suspicious patient may be developing signs. Owners feel patient has been drinking a bit more. Seems hungrier.

**SPECIES**

Canine

Current medications: Previously on Denamarin, but did not help liver enzymes.

Abnormal PE/Chem/CBC/UA Results: ALP 1656 (8/23/22).

**BREED**

Maltese Mix

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

MN

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

**AGE**

12yr

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. Minor pyelectasia was present in the left kidney. The left kidney measured 5.4 cm in length. The right kidney measured 5.3 cm in length

**WEIGHT**

21.4lb

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of pathology measuring 1.0 cm in diameter.

**INTERPRETED BY**

R. McKenzie Daniel, DVM,  
DABVP (Canine and Feline)

**Adrenal Glands**

The bilateral adrenal glands were enlarged in size based on caudal pole width measurement and body weight. The right adrenal gland was mildly larger than the left secondary to a mild irregular non-homogenous non-mineralized nodule occupying the mid to caudal adrenal gland with mild associated capsule distortion. The nodule measured 1.9 cm x 1.1 cm. The left adrenal gland exhibited primarily maintained homogenous parenchyma. No overt evidence of capsule escape or vascular invasion was present. The left adrenal gland measured 0.76 cm width at the caudal pole and 2.8 cm length. The right adrenal gland measured 1.2 cm width at the caudal pole and 3.3 cm length.

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Anchor Animal Hospital

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

**REFERRING VET**

Dr. Yeung

**Liver**

**INVOICE**

12537

The liver presented mild to moderately increased in size. Generalized mild increased parenchyma echogenicity with mild to moderate coarse architecture was present. A solitary mid intra parenchymal non-disruptive hypoechoic nodule was present measuring 1.3 cm in diameter. The capsule of the liver was symmetrical in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

**DATE**

12/25/2022



**PATIENT**

Gizmo Morgan

The gallbladder was non-distended in size with primarily anechoic luminal content and mild non-organized echogenic debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.

**SPECIES**

Canine

**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild echogenic fluid and chyme with no signs of ileus, obstruction or foreign material.

**BREED**

Maltese Mix

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the duodenum contained mild echogenic fluid/chyme with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

**SEX**

MN

**Pancreas**

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**AGE**

12yr

**Free Abdomen**

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

**WEIGHT**

21.4lb

**ULTRASONOGRAPHIC FINDINGS**

- Mild age related renal changes with minor left kidney pyelectasia
- Hepatomegaly with generalized parenchymal hyperechogenicity, solitary discrete hypoechoic intraparenchymal nodule-steroid or vacuolar hepatopathy likely, minor potential for inflammatory parenchymal disease i.e. cholangiohepatitis, nodule likely consistent with area of hematopoiesis, hyperplasia or similar
- Mild gallbladder debris (non-mucocele)
- Bilateral adrenomegaly secondary to irregular non-mineralized right adrenal nodule-nodule may indicate functional vs non-functional adenomatous change, benign hyperplasia, possibility of emerging right adrenal tumor cannot be excluded

**INTERPRETED BY**

R. McKenzie Daniel, DVM,  
DABVP (Canine and Feline)

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**HOSPITAL NAME**

Anchor Animal Hospital

Full adrenal workup with LDDST as well as screening BP is advised to assess for evidence of hypertension which may allude to emerging adrenal neoplastic criteria i.e. pheochromocytoma is suggested.

**REFERRING VET**

Dr. Yeung

The left kidney pyelectasia may be owing to chronic renal changes, potential pelvic scarring possibly owing to previous calculi passage, IV fluid therapy (if applicable). Urine C/S and protein: creatinine ratio on sterile urine sample is recommended.

**INVOICE**

12537

Ideally sonographically monitoring of the right adrenal nodule for evidence of progressive nodular changes with initial recheck in 4-6 weeks is suggested. If Cushing's syndrome is ruled out and assuming normal clotting status a hepatic FNA for screening cytology could be considered for further assessment.

**DATE**

12/25/2022

Hepatosupportive medications such as Denamarin and Ursodiol may prove beneficial.



**PATIENT**

Gizmo Morgan

**SPECIES**

Canine

**BREED**

Maltese Mix

**SEX**

MN

**AGE**

12yr

**WEIGHT**

21.4lb

**INTERPRETED BY**

R. McKenzie Daniel, DVM,  
 DABVP (Canine and Feline)

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Anchor Animal  
 Hospital

**REFERRING VET**

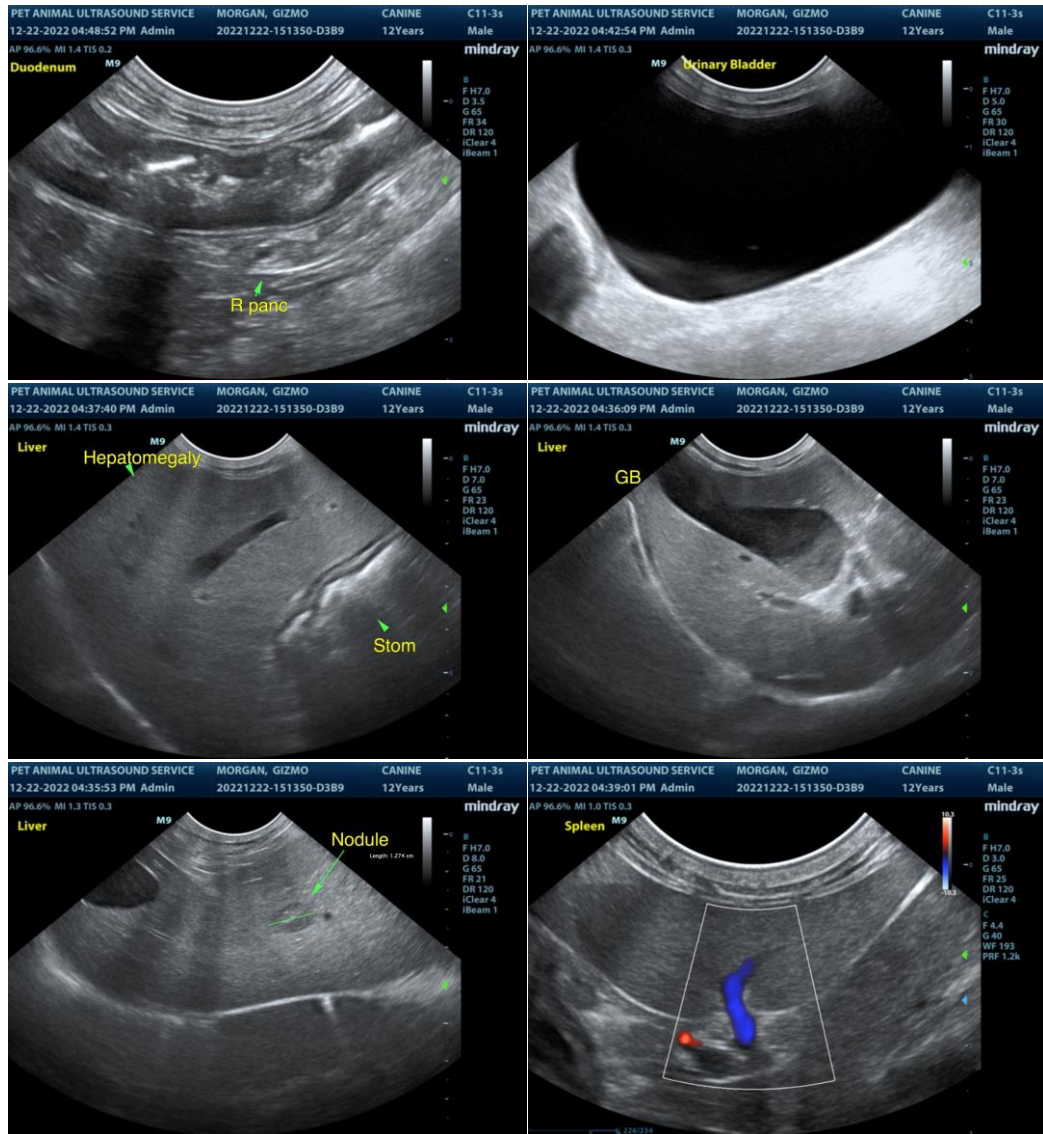
Dr. Yeung

**INVOICE**

12537

**DATE**

12/25/2022





**PATIENT**

Gizmo Morgan

**SPECIES**

Canine

**BREED**

Maltese Mix

**SEX**

MN

**AGE**

12yr

**WEIGHT**

21.4lb

**INTERPRETED BY**

R. McKenzie Daniel, DVM,  
 DABVP (Canine and Feline)

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

Anchor Animal  
 Hospital

**REFERRING VET**

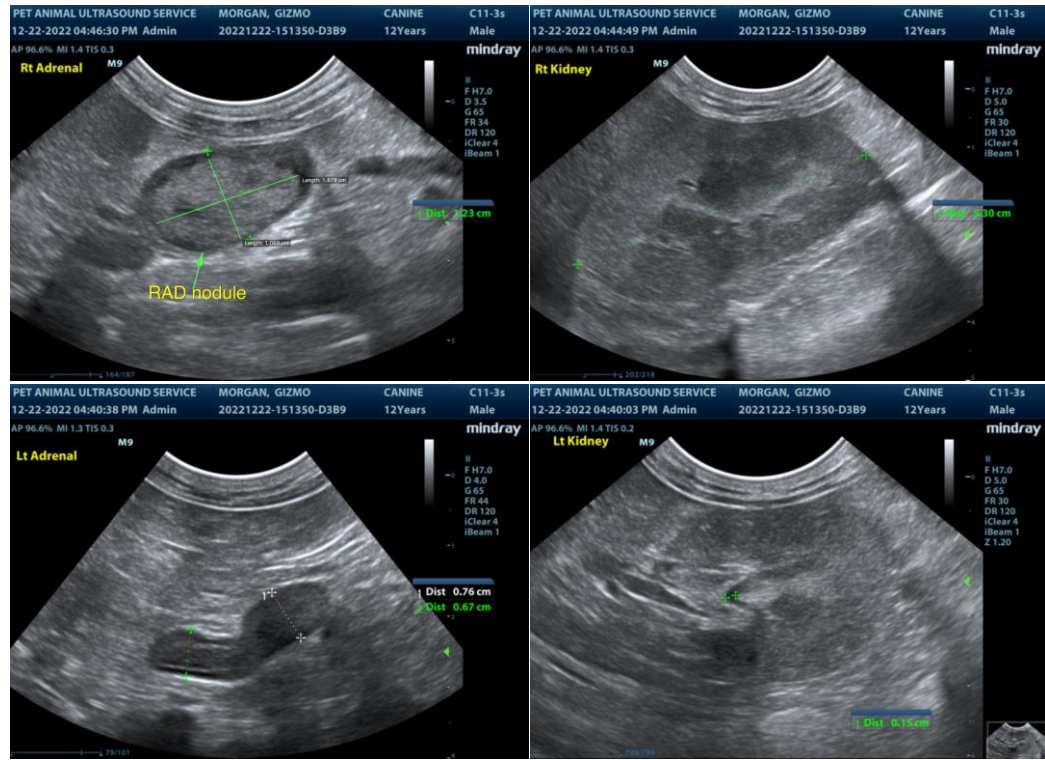
Dr. Yeung

**INVOICE**

12537

**DATE**

12/25/2022



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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com