



**PATIENT PRESENTING CLINICAL SIGNS**

Duke Cabral Historically managed for IBD, bladder stones, KCS, mild elevation in liver enzymes over last few years. GI episodes started in May 2015, diarrhea and intermittent vomiting. Has been mostly well-managed on medications. Bladder stone diagnosed in 2021 - not clinical for bladder issues; owner elected to monitor. ALT 653; ALP 172. On Denamarin, Pepcid, Imuran, Optimmune, K Citrate, Tramadol, Cerenia, Urinary and HP diet

**SPECIES**

Canine

**BREED**

Bolognese

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

MN

The urinary bladder was normal in size and tone with mildly thickened yet uniform ventral urinary bladder wall. No evidence of mural mineralization. The ventral urinary bladder wall width measured 0.30 cm. Anechoic urine was primarily present with mild dependent mineral / sand extending into the area of the cystourethral junction and proximal urethra. The urethra exhibited normal structure and tone to a depth of 2.0 cm.

**AGE**

9 years

The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 0.70 cm in diameter.

**WEIGHT**

13.2 lbs.

The area of the aortic trifurcation was free of pathology.

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. Pinpoint to focal areas of medullary mineral were present. No evidence of pelvic dilation was present. The left kidney measured 3.6 cm in length. The right kidney measured 4.0 cm in length.

**INTERPRETED BY**

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

**Adrenal Glands**

**IMAGING**

**PERFORMED BY**

Pamela Harrigan, RDCS

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.49 cm width in the cranial pole and 0.65 cm width in the caudal pole. The right adrenal gland measured 0.46 cm width in the cranial pole and 0.44 cm width in the caudal pole.

**HOSPITAL NAME**

ANchor AH

**Spleen**

**REFERRING VET**

Nicole Mulready, DVM

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.

**INVOICE**

14249

**Liver/ Gallbladder**

**DATE**

7/7/22

The liver exhibited mild to possibly moderately enlargement yet maintained symmetrical capsule contour with generalized mild nonuniform increased parenchyma echogenicity. Intermittent subtly hypoechoic nondisruptive intraparenchymal nodules were present with an example measuring 1.2 cm in diameter. Mild congealed yet nonorganized mobile gallbladder debris was present with the gallbladder otherwise normal. The cystic and common bile ducts were normal.



**PATIENT**

***Gastrointestinal***

Duke Cabral

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

**SPECIES**

Canine

The small intestine presented intact yet mildly prominent wall layering owing to a generalized propensity for mildly prominent mucosa. The duodenum wall measured 0.40 cm width. The jejunum wall measured 0.32 cm width. No evidence of loss of intestinal wall layering or intestinal masses was noted.

**BREED**

Bolognese

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

***Pancreas***

**SEX**

MN

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 were evident.

**AGE**

9 years

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

13.2 lbs.

- Mild dependent urinary bladder sand / mineral, suspect low-grade ventral cystitis
- Mild chronic renal changes with pinpoint to focal medullary mineral
- Chronic hepatopathy with intermittent subtle intraparenchymal nodules - subjectively benign
- Mild gallbladder debris (non-mucocele)
- Intact yet mildly prominent small bowel walls

**INTERPRETED BY**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

This patient may be passing small amounts of mineral from the kidneys into the urinary bladder. No evidence of cystic macro calculi was noted. Further renal staging to include urine C/S and protein:creatinine ratio on sterile urine sample may be considered.

**IMAGING**

**PERFORMED BY**

Pamela Harrigan, RDCS

**HOSPITAL NAME**

ANchor AH

Considerations for the liver may include chronic inflammatory / immune-mediated disease, vacuolar hepatic changes, subtle areas of nodular hyperplasia, hematopoiesis, or other hepatopathy with hepatic neoplastic criteria considered less likely. Assuming normal clotting status, hepatic FNA using a 25-gauge needle could be considered for screening cytology primarily to assess for or possibly identify inflammatory cell type. Hepatosupportive medications including current Denamarin as well as Ursodiol may prove beneficial.

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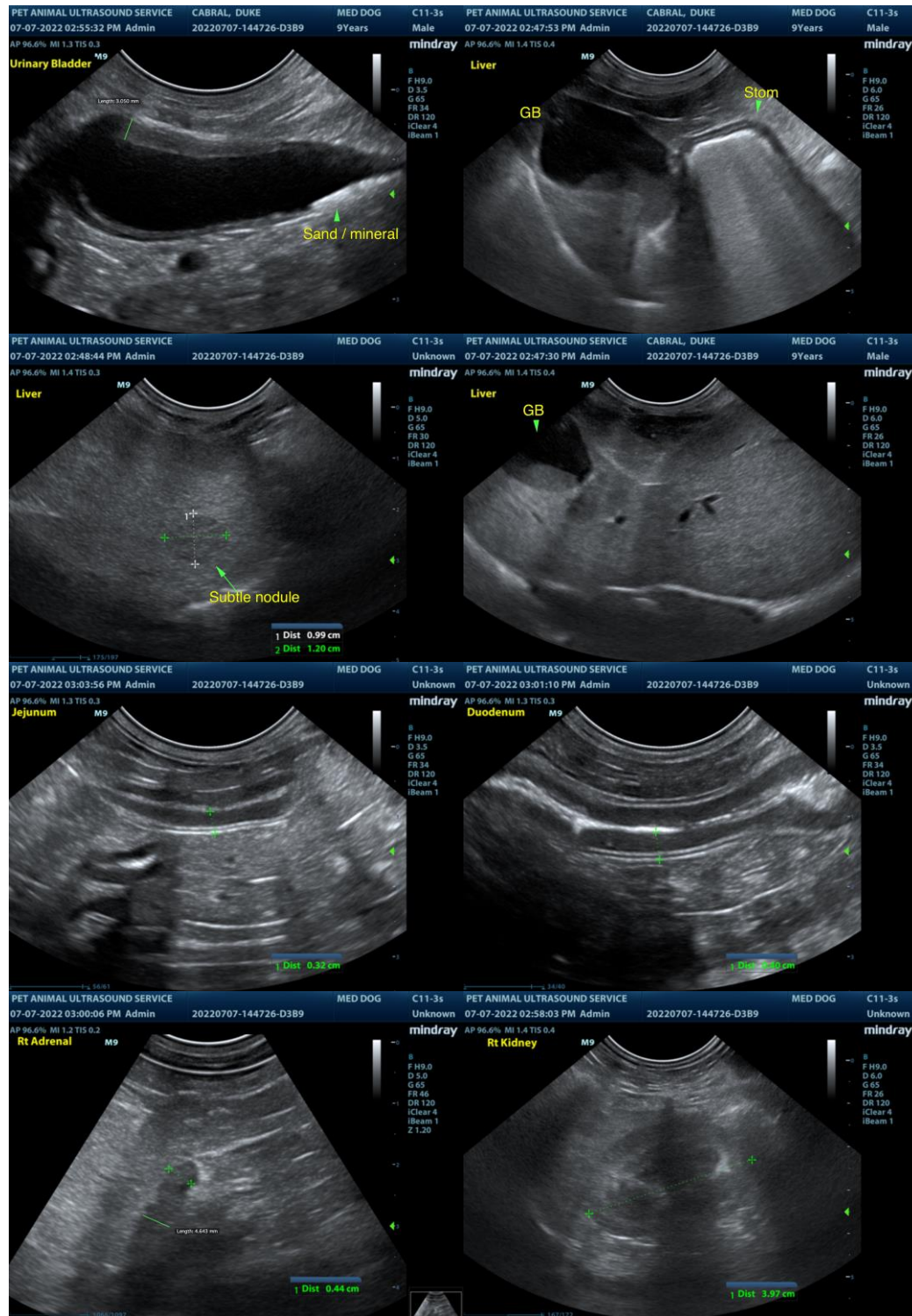
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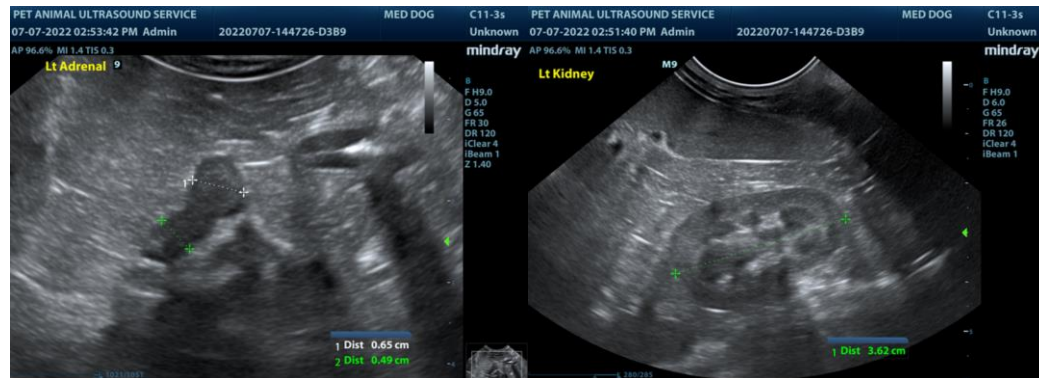
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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**