



**PATIENT**

**PRESENTING CLINICAL SIGNS**

Rocky Cole

Recent diagnosis of chronic kidney disease following an episode of lethargy and partial anorexia which may or may not have been related. Pt has been started on aluminum hydroxide and ondansetron. Anorexia has resolved. Ultrasound was performed to further characterize kidneys primarily as well as screening for other unidentified problems.

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: Moderate azotemia, hyperphosphatemia, mild moderate hyperalkaline phosphatemia (568, 5 to 160), isosthenuria, +2 proteinuria. Urine culture screen and urine protein/creatinine ratios are pending. Blood pressure is wnl.

**BREED**

Shih Tzu

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm 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.

MN

**AGE**

12yr

Normal size and mild asymmetrical 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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Pinpoint to diffuse dystrophic medullary mineral was present. A small right kidney cortical cyst was present. No evidence of pelvic dilation was present. The left kidney measured 3.5 cm in length. The right kidney measured 3.5 cm in length.

**WEIGHT**

11.66lb

The area of the aortic trifurcation was free of pathology.

**INTERPRETED BY**

The area of the residual prostate appeared normal and free of pathology.

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

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.50 cm width at the caudal pole and 1.7 cm length.

**IMAGING PERFORMED BY**

T

A moderately sized well-defined, hyperechoic nodule was present in the mid to cranial right adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 1.3 cm x 1.2 cm. The right adrenal gland measured 0.55 cm width at the caudal pole and 2.2 cm width at the cranial pole.

**HOSPITAL NAME**

**Spleen**

Friendship Springs  
Veterinary Care

The spleen exhibited normal size and subtle capsule asymmetry with subtle parenchyma heterogeneity. Multifocal pinpoint hyperechoic parenchyma foci were present which may indicate areas of microinfarction, fibrosis or mineralization. This finding is benign without neoplastic criteria.

**REFERRING VET**

Dr. Cutchin

**Liver/Gallbladder**

**INVOICE**

13276ag

The liver presented mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non distended in size with echogenic, nonmineralized, non-dependent biliary sludge. The biliary sludge was non organized with a hypoechoic to anechoic, irregular to interrupted rim visible between the nondependent sludge and inner wall. No signs of gallbladder or peripheral inflammation. The common bile duct was normal.

**DATE**

03/23/2023



**PATIENT**

**Gastrointestinal**

Rocky Cole

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 wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

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

**BREED**

**Pancreas**

Shih Tzu

The pancreas base and right pancreatic limb exhibited mild prominent size and capsule asymmetry with heterogenous nonuniform hyperechoic to nodular parenchyma.

**SEX**

**Free Abdomen**

MN

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

**ULTRASONOGRAPHIC FINDINGS**

**AGE**

12yr

- Moderate chronic renal changes with pinpoint diffuse dystrophic medullary mineral.
- Mildly expansive non-homogenous non-mineralized right adrenal nodule-adenoma, hyperplasia, emerging neoplasia or other possible.
- Mild hepatic parenchyma remodeling-benign.
- Gallbladder debris, possible very early/immature mucocele.
- Non-homogenous hyperechoic nodular pancreas-chronic pancreatitis, fibrosis, nodular hyperplasia possible. No evidence of pancreatic neoplasia.

**WEIGHT**

11.66lb

**INTERPRETED BY**

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

**Secondary findings**

- Benign splenic hyperechoic parenchyma foci.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Correlation with pending further renal staging is suggested. CRD therapy pending additional renal staging would be reasonable.

**IMAGING PERFORMED BY**

T

The normal systemic BP does not overtly rule out potential for right adrenal pheochromocytoma although the right adrenal gland is of unclear clinical importance. Monitoring of systemic BP as well as sonographic reassessment of the right adrenal nodule for evidence of progression with initial recheck in 4-6 weeks is recommended.

**HOSPITAL NAME**

Friendship Springs  
Veterinary Care

Hepatosupportive medications such as Denamarin and Ursodiol suggested if evidence of cholestasis. Supportive care for potential chronic pancreatitis may be considered if recurrent GI signs.

**REFERRING VET**

Dr. Cutchin

**INVOICE**

13276ag

**DATE**

03/23/2023



**PATIENT**

Rocky Cole

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

MN

**AGE**

12yr

**WEIGHT**

11.66lb

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

T

**HOSPITAL NAME**

Friendship Springs  
Veterinary Care

**REFERRING VET**

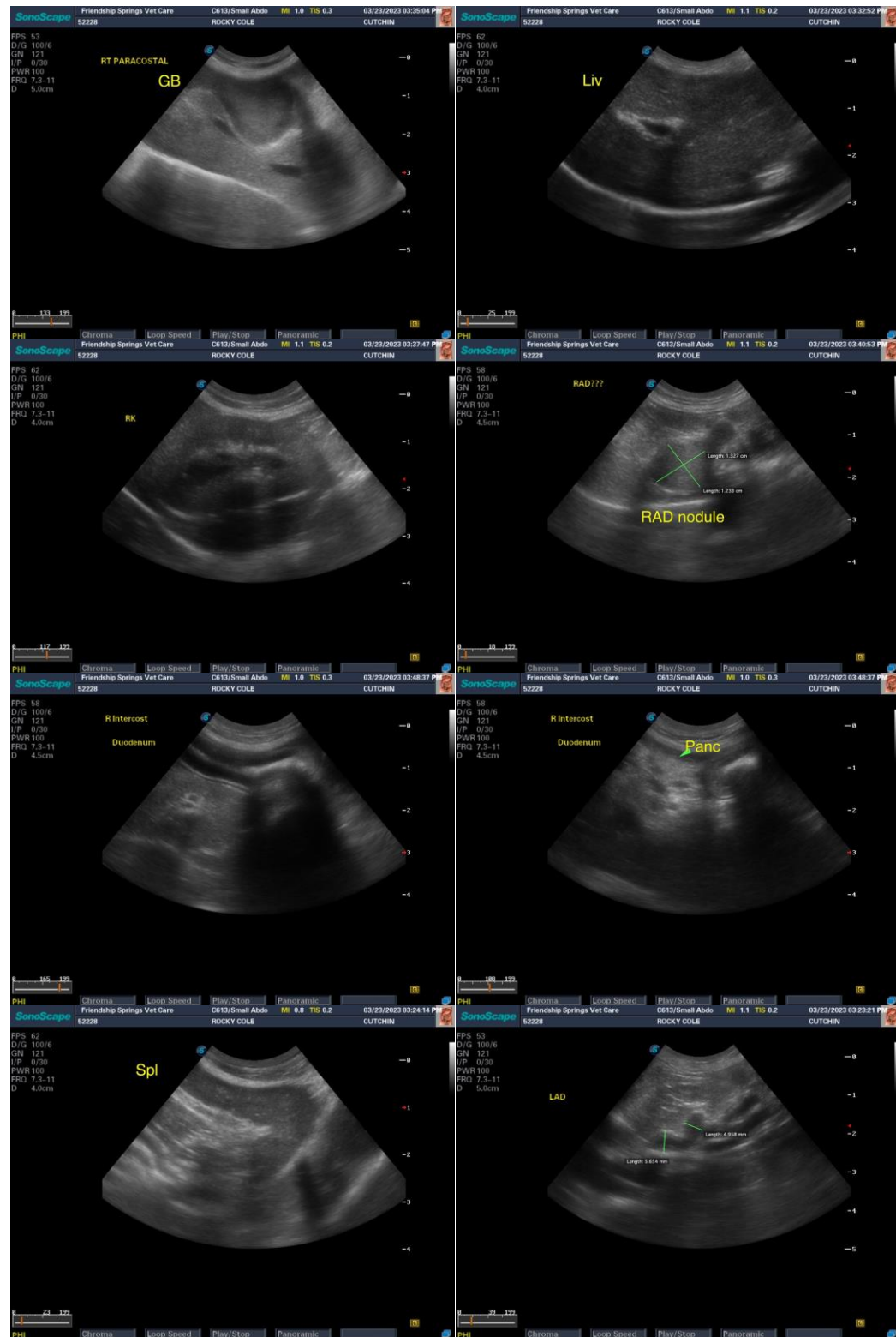
Dr. Cutchin

**INVOICE**

13276ag

**DATE**

03/23/2023





**PATIENT**

Rocky Cole

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

MN

**AGE**

12yr

**WEIGHT**

11.66lb

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

T

**HOSPITAL NAME**

Friendship Springs  
Veterinary Care

**REFERRING VET**

Dr. Cutchin

**INVOICE**

13276ag

**DATE**

03/23/2023



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)

[mac.daniel@sonopath.com](mailto:mac.daniel@sonopath.com)