



**PATIENT**

Cocoa Robinson-Faulkner

**SPECIES**

Canine

**BREED**

Jack Russell X

**SEX**

Spayed female

**AGE**

11 years

**WEIGHT**

35.4 pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Lucas Budden

**HOSPITAL NAME**

Frontier Veterinary  
Hospital

**REFERRING VET**

Dr. Lucas Budden

**INVOICE**

10225ag

**DATE**

03/22/2022

**PRESENTING CLINICAL SIGNS**

History: Seen for an annual exam 2/21/2022. At that time had a heart murmur (historical grade 2/6 left apical systolic) and was starting to have some mobility problems. Had some muscle atrophy in the hind limbs. Slightly overweight. Blood work at that visit prompted a LDDS test and results of the LDDS test prompted an abdominal ultrasound.

Abnormal PE/Chem/CBC/UA Results: CBC/Chem 2/22/2022 Alk phos 1285. Significantly elevated from last lab work which was 290 Magnesium slightly elevated 2.6 nsf Cholesterol slightly elevated 442 rule out postprandial Triglycerides 874 rule out postprandial versus hyperlipidemia Hematocrit elevated 61% rule out mild dehydration Rest of CBC CHEM WNL Home test negative Fecal test no parasites seen USG 1.023, dilute, 3+ proteinuria rule out Cushing's, PLN versus PLE, rest of urine sediment no significant findings. Last urinalysis had 2+ proteinuria and dilute urine. LDDS 3/5/2022 Cortisol Serial 3 DEX Time 1 PRE CORTISOL SAMPLE 1 2.7 1.0-5.0 ug/dL Time 2 4HR CORTISOL SAMPLE 2 DEX 1.9 (HIGH) 0.0-1.4 ug/dL Time 3 8HR CORTISOL SAMPLE 3 DEX 3.1 (HIGH) 0.0-1.4 ug/dL

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 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.

Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some mild to moderately increased echogenicity and loss of corticomodullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Pinpoint areas of medullary noted in both kidneys. The left kidney measured 6.0 cm in length. The right kidney measured 6.0 cm in length.

The area of the aortic trifurcation was free of pathology.

**Adrenal Glands**

A well-defined, hyperechoic nonmineralized nodule was present in the cranial left adrenal gland with mild associated symmetrical capsule expansion yet without evidence of capsular escape or vascular invasion. The nodule measured 1.2 cm x 0.8 cm. Overall the left adrenal gland measured 0.73 cm width at the caudal pole and 1.1 cm width at the cranial pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma without evidence of hyperplasia or neoplastic criteria. The right adrenal gland measured 0.49 cm width at the caudal pole and 0.66 cm width at the cranial pole.

**Spleen**

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.



## PATIENT

Cocoa Robinson-Faulkner

## SPECIES

Canine

## BREED

Jack Russell X

## SEX

Spayed female

## AGE

11 years

## WEIGHT

35.4 pounds

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Lucas Budden

## HOSPITAL NAME

Fronteir Veterinary  
Hospital

## REFERRING VET

Dr. Lucas Budden

## INVOICE

10225ag

## DATE

03/22/2022

## Liver

The liver presented 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 moderate mild congealed yet nonorganized gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammation was noted. The cystic and common bile ducts were normal.

## Gastrointestinal

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

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. Subtle segmental nonspecific duodenojejunal speckling was noted. 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.

## 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.

## Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

## ULTRASONOGRAPHIC FINDINGS

- Nonspecific mild to moderate chronic renal changes with pinpoint medullary mineral.
- Well demarcated left adrenal nodule.
- Vacuolar hepatopathy pattern.
- Moderate gallbladder debris (non mucocele).

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although nonspecific, the left adrenal nodule may indicate functional adenoma given lack of concurrent right adrenomegaly. The potential for emerging aggressive neoplasia such as pheochromocytoma or adenocarcinoma within the left adrenal gland could be possible. Screening BP is suggested to assess for evidence of hypertension which may allude to possible pheochromocytoma. Hepatosupportive medications including Denamarin and ursodiol may prove beneficial.

Further renal staging to include urine C/S and baseline UPC recommended on a sterile urine sample as patients with hyperadrenocorticism are prone to proteinuria and UTI. Ideally sonographic monitoring of



**PATIENT**

Cocoa Robinson-Faulkner

**SPECIES**

Canine

**BREED**

Jack Russell X

**SEX**

Spayed female

**AGE**

11 years

**WEIGHT**

35.4 pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Lucas Budden

**HOSPITAL NAME**

Fronteir Veterinary  
Hospital

**REFERRING VET**

Dr. Lucas Budden

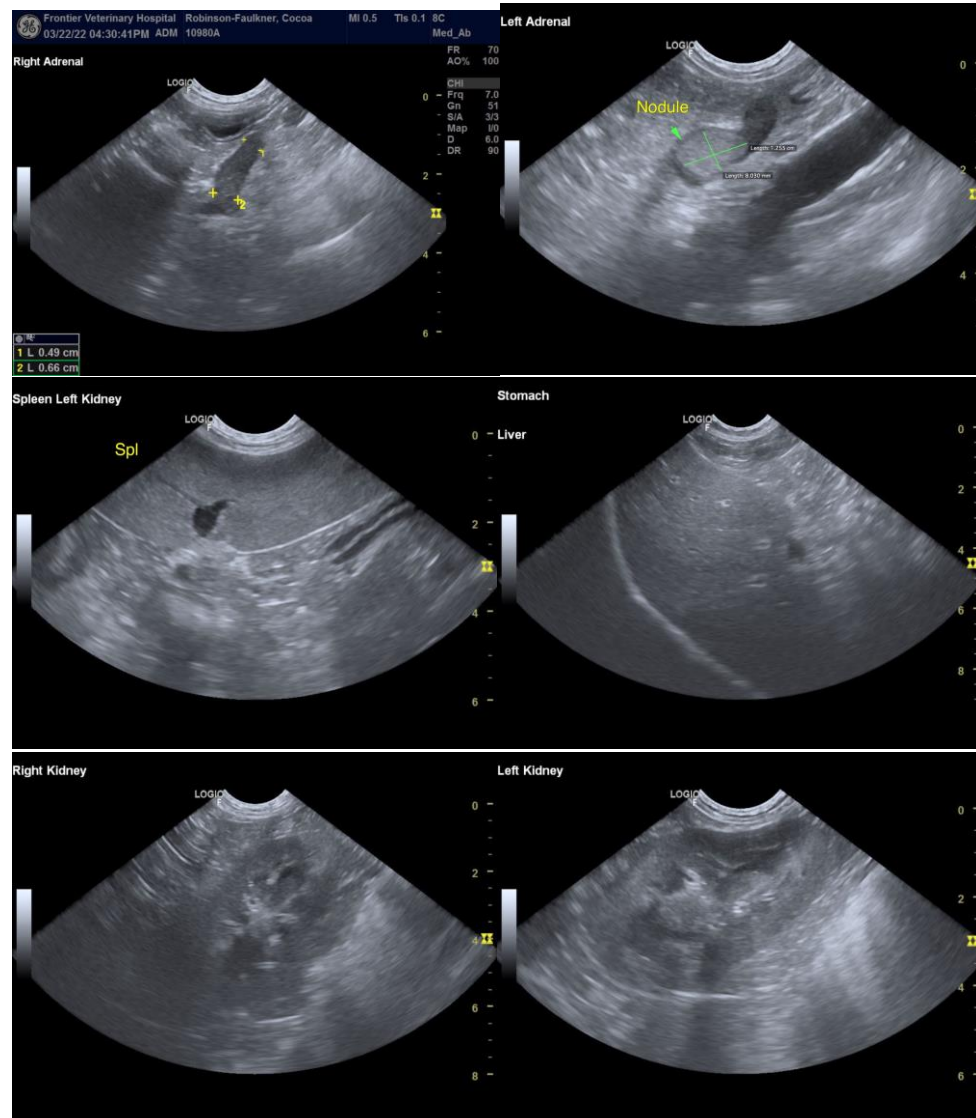
**INVOICE**

10225ag

**DATE**

03/22/2022

the left adrenal nodule for evidence of progression with initial recheck in 4 weeks is suggested. Ultimately left adrenalectomy may be considered.





**PATIENT**

Cocoa Robinson-Faulkner

**SPECIES**

Canine

**BREED**

Jack Russell X

**SEX**

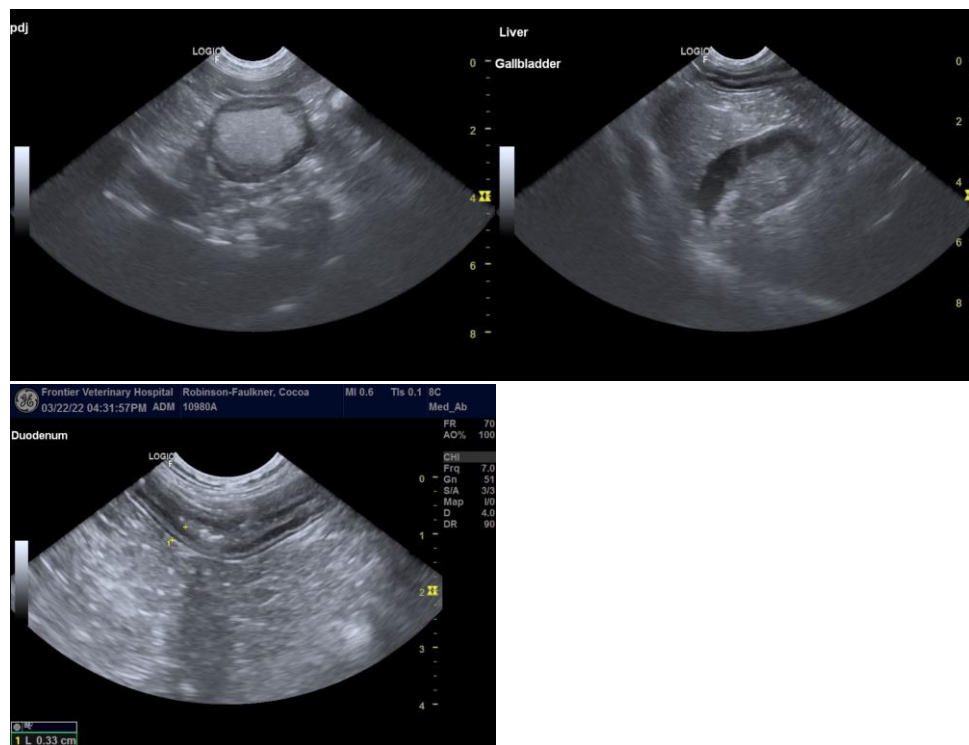
Spayed female

**AGE**

11 years

**WEIGHT**

35.4 pounds



**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Lucas Budden

**HOSPITAL NAME**

Fronteir Veterinary  
Hospital

**REFERRING VET**

Dr. Lucas Budden

**INVOICE**

10225ag

**DATE**

03/22/2022

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