



**PATIENT**

Betty Maddux

**SPECIES**

Canine

**BREED**

Cockapoo

**SEX**

FS

**AGE**

13 years

**WEIGHT**

21 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kim Liedberg

**HOSPITAL NAME**

SVS Imaging WI

**REFERRING VET**

Dr. Gill, West  
Burleigh VC

**INVOICE**

13517

**DATE**

3/17/22

**PRESENTING CLINICAL SIGNS**

Presented with painful and distended abdomen. No radiographs were taken.  
Abnormal PE/Chem/CBC/UA Results: Elevated ALP and BUN

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder was subnormal in size owing to a lack of urine distention. Full evaluation of the urinary bladder was limited owing to lack of urine distention yet subjective cystitis pattern involving the mid-ventral, apical and mid-dorsal urinary bladder wall was present. Focal areas of dependent luminal mineral potentially adhered to the inner luminal wall were present. Minimal anechoic urine was otherwise noted. The urethra was normal to a depth of 3.0 cm. Suspect focal nonobstructive proximal urethral luminal mineral was noted. Normal overall proximal urethral size and tone was present.

Several medial iliac lymph nodes were present. The lymph nodes were mildly hypoechoic to swollen exhibiting symmetrical to rounded margination with abnormal width: length ratio (>0.5). Subtle evidence of perilymphatic reactive mesentery was noted. An example of a medial iliac lymph node measured 3.0 cm x 1.6 cm.

Normal renal size with asymmetrical margination were present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. Multiple cortical to corticomedullary cysts along with areas of medullary mineralization were present. Both kidneys exhibited mild pyelectasia. The left kidney exhibited subtle, mildly nonhomogeneous medullary nodule measuring 0.9 cm in diameter. The left kidney measured 5.0 cm in length. The right kidney measured 5.2 cm in length.

**Adrenal Glands**

An echogenic to mildly nonhomogeneous nodule was present in the mild left adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 0.52 x 0.34 cm. The overall left adrenal gland was mildly prominent in size measuring 0.80 cm width at the caudal pole and 0.74 cm width at the cranial pole.

An echogenic to mildly nonhomogeneous nodule was present in the cranial pole of the right adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 1.2 cm x 1.2 cm. The overall right adrenal gland measured 0.57 cm width at the caudal pole and 1.2 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



**PATIENT**

Betty Maddux

parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

**SPECIES**

Canine

**Liver/ Gallbladder**

The liver was enlarged in size with nonuniform, echogenic parenchyma exhibiting multifocal mildly hypoechoic parenchymal nodules. The gallbladder was non-distended in size with mild gallbladder debris. The cystic and common bile ducts were normal.

**BREED**

Cockapoo

**Gastrointestinal**

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.

**SEX**

FS

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.

**AGE**

13 years

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

**WEIGHT**

21 lbs.

**Pancreas**

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

**INTERPRETED BY**

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

**Free Abdomen**

No evidence of significant lymphadenopathy or peritoneal effusion was noted.

**IMAGING PERFORMED BY**

Kim Liedberg

**ULTRASONOGRAPHIC FINDINGS**

- Cystitis pattern with mild luminal mineral
- Nonspecific medial iliac lymphadenopathy - lymphoid hyperplasia, reactive lymphadenitis, early neoplastic lymphadenopathy possible
- Bilateral nodular adrenal glands - functional vs. nonfunctional adenomas, hyperplasia, lipogranulomas, emerging neoplasia i.e., pheochromocytoma or adenocarcinoma possible
- Moderate polycystic chronic renal changes exhibiting nonobstructive medullary mineral and nonspecific discrete left kidney medullary nodule
- Hepatopathy exhibiting nonuniformly echogenic to hypoechoicly nodular parenchyma - vacuolar hepatopathy / hepatitis, inflammatory hepatopathy with parenchymal remodeling, areas of hematopoiesis, nodular to regenerative hyperplasia suspected, neoplasia possible yet thought less likely
- Mild gallbladder debris (non-mucocele)

**HOSPITAL NAME**

SVS Imaging WI

**REFERRING VET**

Dr. Gill, West  
Burleigh VC

**INVOICE**

13517

**DATE**

3/17/22

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.



## PATIENT

Betty Maddux

## SPECIES

Canine

## BREED

Cockapoo

## SEX

FS

## AGE

13 years

## WEIGHT

21 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Kim Liedberg

## HOSPITAL NAME

SVS Imaging WI

## REFERRING VET

Dr. Gill, West  
Burleigh VC

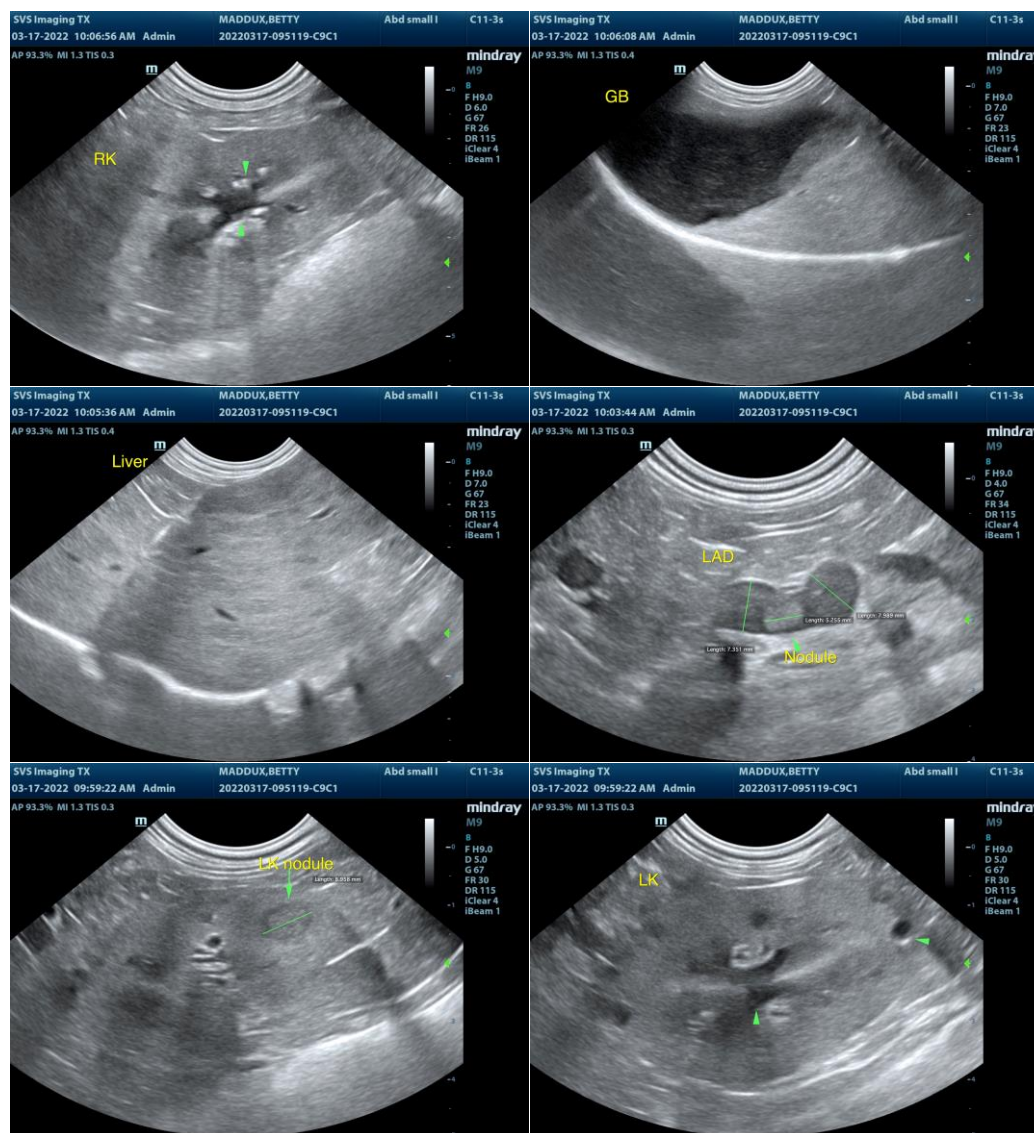
## INVOICE

13517

## DATE

3/17/22

Full adrenal workup is recommended if clinical suspicion of hyperadrenocorticism. Screening blood pressure is suggested to assess for evidence of hypertension which may allude to emerging pheochromocytoma. Assuming normal clotting status, ultrasound-guided FNA of an enlarged medial iliac lymph node and hepatic parenchyma using a 25-gauge needle is warranted for screening cytology.





**PATIENT**

Betty Maddux

**SPECIES**

Canine

**BREED**

Cockapoo

**SEX**

FS

**AGE**

13 years

**WEIGHT**

21 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kim Liedberg

**HOSPITAL NAME**

SVS Imaging WI

**REFERRING VET**

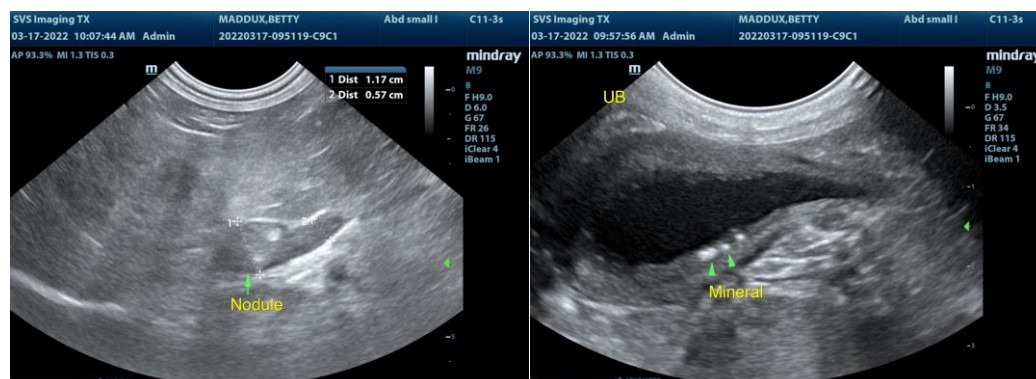
Dr. Gill, West  
Burleigh VC

**INVOICE**

13517

**DATE**

3/17/22



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