



**PATIENT PRESENTING CLINICAL SIGNS**

Cooper Oberman History: Elevated liver values

ALP 757, ALT 345, unremarkable CBC

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

***Urinary System***

**BREED**

Lab Mix

The urinary bladder, trigone, cystourethral junction, and visible proximal pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths, sediment, or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

**SEX**

Neutered Male

No evidence of pathology was noted in the area of the residual prostate.

The area of the aortic trifurcation was free of pathology.

**AGE**

11 years

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. No evidence of pelvic dilation was present. The left kidney measured 6.7 cm in length. The right kidney measured 7.3 cm in length.

**WEIGHT**

61 Pounds

***Adrenal Glands***

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.51 cm width at the caudal pole and 0.43 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.55 cm width at the caudal pole and 0.88 cm width at the cranial pole.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

***Spleen***

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multiple, non-expansive echogenic nodules were present primarily in the medial parenchyma around the hilus. 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 or neoplastic changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

**HOSPITAL NAME**

Community VP

**REFERRING VET**

Dr. Carpenter

***Liver/ Gallbladder***

The liver exhibited subjective mild generalized enlargement yet maintained symmetrical capsule contour. Nonuniform parenchyma exhibiting parenchymal remodeling and intermittent discreet hypoechoic intraparenchymal nodules were present. No overt evidence of a mass was noted. An example of a hepatic nodule measured 2.0 cm in diameter. The gallbladder was non-distended in size with mild gallbladder debris. The cystic and common bile ducts were normal.

**INVOICE**

12860

**DATE**

12.20.2021



## PATIENT

Cooper Oberman

## *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.

## 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.

## BREED

Lab Mix

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

## SEX

Neutered Male

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

11 years

## *Free Abdomen*

No overt lymphadenopathy or peritoneal effusion was present.

## ULTRASONOGRAPHIC FINDINGS

### WEIGHT

61 Pounds

### *Primary Findings*

- Chronic hepatopathy exhibiting parenchymal remodeling and intermittent discreet intraparenchymal nodules
- Mild gallbladder debris - non-mucocele

### INTERPRETED BY

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

### *Secondary Findings*

- Mild age-related kidneys
- Benign splenic nodules - consistent with probable myelolipomas

### IMAGING PERFORMED BY

Rebekah Jakum, CVT  
ARDMS/RVT

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The presentation of the liver was nonspecific with considerations including vacuolar hepatopathy, chronic active hepatitis / cholangiohepatitis (immune-mediated, infectious, toxin, etc.), with areas of benign parenchymal remodeling, nodular to regenerative hyperplasia, or hematopoiesis, early fibrosis / cirrhosis or other hepatopathy. Sonographically, neoplasia is considered a less likely differential diagnosis, yet cannot be excluded. Further assessment may include, assuming normal clotting status, ultrasound-guided FNA of the liver for screening cytology +/- Leptospiriosis titer / PCR if clinically indicated. Hepatic core or surgical biopsy would be considered Gold Standard for a definitive histopathological diagnosis.

### HOSPITAL NAME

Community VP

### REFERRING VET

Dr. Carpenter

### INVOICE

12860

Empirically, hepatosupportive medications including Denamarin and Ursodiol are recommended. Recheck sonogram to assess for progressive hepatic parenchymal changes is recommended if persistent / progressive hepatic enzyme elevations despite hepatosupportive medications.

### DATE

12.20.2021



**PATIENT**

Cooper Oberman

**SPECIES**

Canine

**BREED**

Lab Mix

**SEX**

Neutered Male

**AGE**

11 years

**WEIGHT**

61 Pounds

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**HOSPITAL NAME**

Community VP

**REFERRING VET**

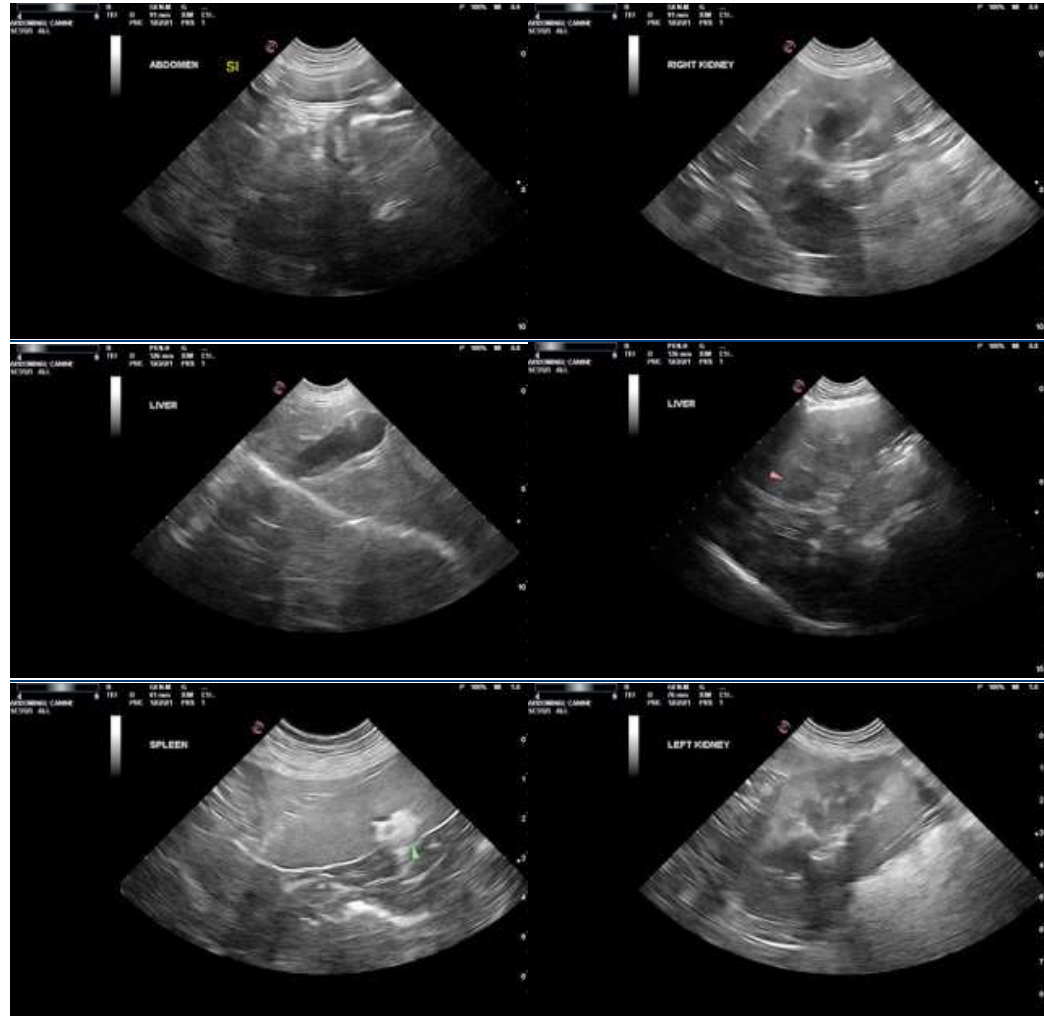
Dr. Carpenter

**INVOICE**

12860

**DATE**

12.20.2021





**PATIENT**

Cooper Oberman

**SPECIES**

Canine

**BREED**

Lab Mix

**SEX**

Neutered Male

**AGE**

11 years

**WEIGHT**

61 Pounds

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**HOSPITAL NAME**

Community VP

**REFERRING VET**

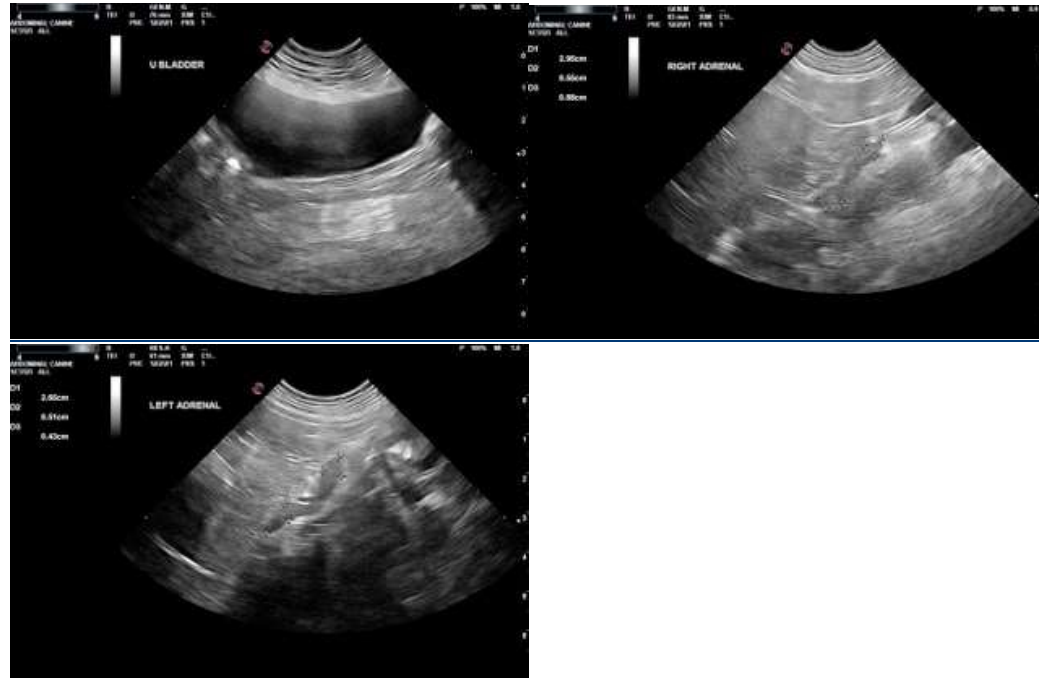
Dr. Carpenter

**INVOICE**

12860

**DATE**

12.20.2021



**The information and recommendations provided are based on the images presented by the referring veterinarian. 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)