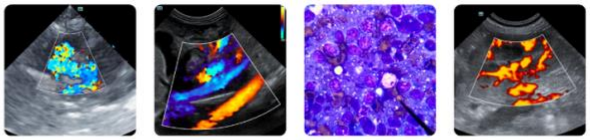




**PATIENT**

Cooper Martin

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Neutered Male

**AGE**

8 Years

**WEIGHT**

96 pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Dr. Julia Bakker DVM

**HOSPITAL NAME**

Orange Blossom Veterinary Imaging

**REFERRING VET**

Dr. Kelley Garner DVM

**INVOICE**

13274

**DATE**

01/20/26

## PRESENTING CLINICAL SIGNS

- AUS and thyroid scan today as part of a workup for hypercalcemia.

Abnormal PE/Chem/CBC/UA Results: Total calcium 15 ALT 138

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN & THYROID

### *Urinary System*

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

Left kidney is normal in size (7.23 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A subtle hyperechoic band parallel to the corticomedullary border is present.

Right kidney is normal in size (6.83 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A subtle hyperechoic band parallel to the corticomedullary border is present.

### *Adrenal Glands*

Left adrenal gland is normal in size (0.52 cm at cranial pole and 0.59 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.64 cm at cranial pole and 0.56 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

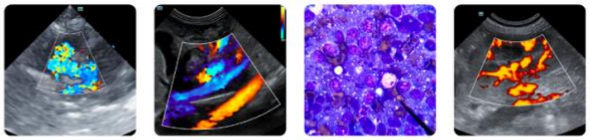
### *Spleen*

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

### *Liver*

Liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. Visible vasculature and biliary tree appear normal without distension or congestion. A subtle homogenous hyperechoic density was present in the mid liver measuring approximately 1.6 cm x 3.8 cm in size.

Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.





**PATIENT**

Cooper Martin

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Neutered Male

**AGE**

8 Years

**WEIGHT**

96 pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Dr. Julia Bakker DVM

**HOSPITAL NAME**

Orange Blossom Veterinary Imaging

**REFERRING VET**

Dr. Kelley Garner DVM

**INVOICE**

13274

**DATE**

01/20/26

### *Gastrointestinal*

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### *Pancreas*

The pancreas that is observed appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*

There is no visible free peritoneal effusion noted in these images.

There is no apparent pathologic lymphadenopathy noted in these images.

### *Thyroid*

The thyroid glands are both visualized.

The right measures 2.5 cm long x 0.48 cm thick. The left measures 3.3 cm long x 0.69 cm thick with no visible parathyroid glands visible in these images at this time.

## ULTRASONOGRAPHIC FINDINGS

- Subtle bilateral medullary rim sign- This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- Liver nodule- Differentials for a discrete hyperechoic liver nodule include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipomas, etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively ruled out.
- Hyperechoic splenic nodules- most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.
- Normal thyroid glands without evidence of enlarged parathyroids are imaged.

**PATIENT**

Cooper Martin

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Neutered Male

**AGE**

8 Years

**WEIGHT**

96 pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Dr. Julia Bakker DVM

**HOSPITAL NAME**

Orange Blossom Veterinary Imaging

**REFERRING VET**

Dr. Kelley Garner DVM

**INVOICE**

13274

**DATE**

01/20/26

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

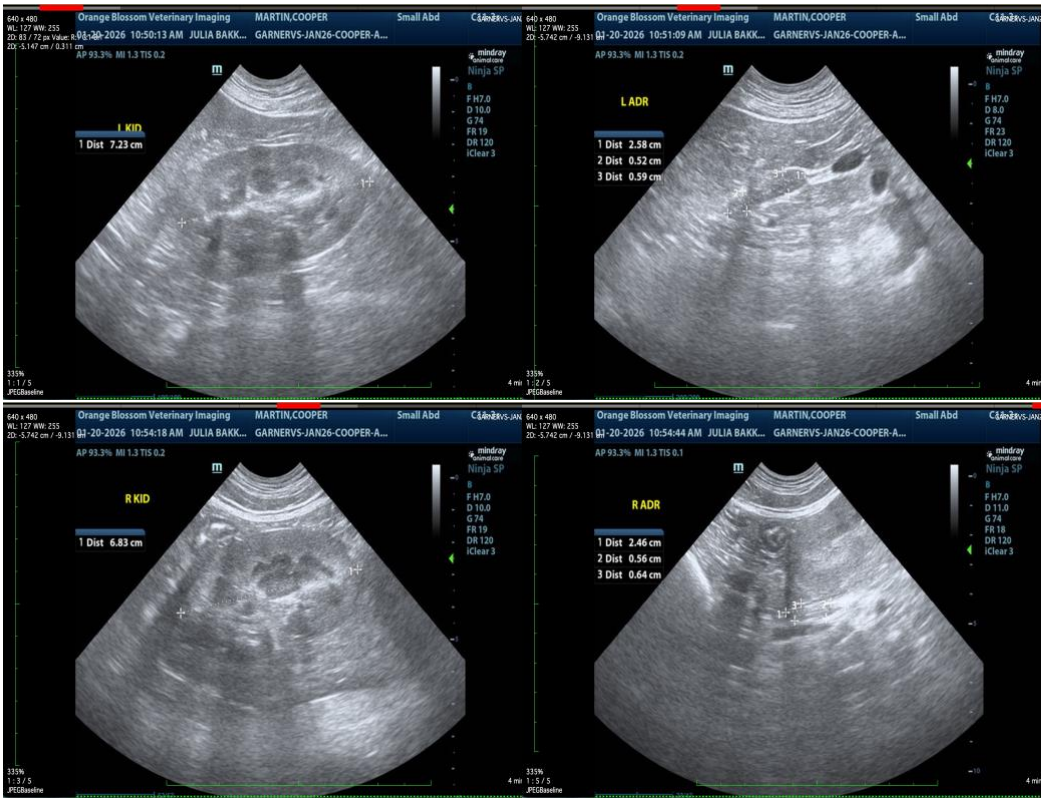
- If not recently evaluated, urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

- Unable to be visualized enlarged parathyroid glands does not rule out hyperparathyroidism.
- Therefore, a malignancy panel (PTH, PTHrP, iCa) to Michigan State College of Veterinary Medicine is recommended for further investigation of the reported hypercalcemia.

- Pending results of above, a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

- Pending results, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

- In the meantime if not already evaluated, anorectal and perianal exam as well as thorough palpation of peripheral lymph nodes is recommended.



**PATIENT**

Cooper Martin

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Neutered Male

**AGE**

8 Years

**WEIGHT**

96 pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Dr. Julia Bakker DVM

**HOSPITAL NAME**

Orange Blossom Veterinary Imaging

**REFERRING VET**

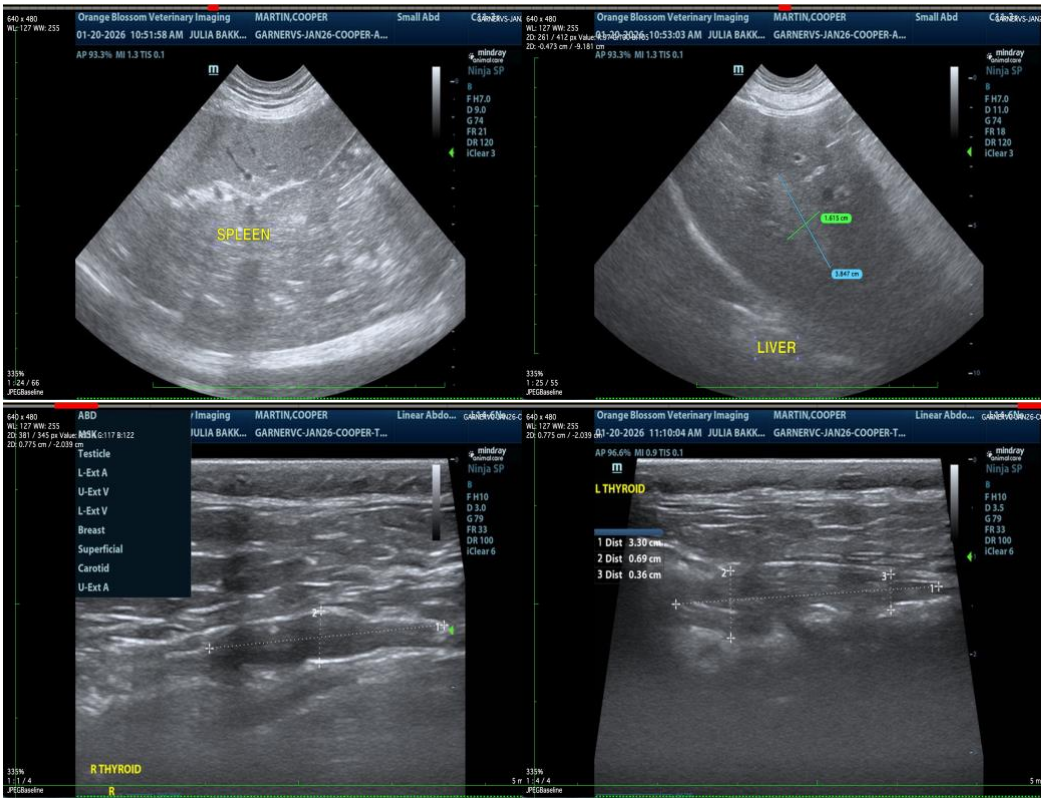
Dr. Kelley Garner DVM

**INVOICE**

13274

**DATE**

01/20/26




**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.

**Beth Johnson, DVM DACVIM**

info@sonopath.com