

**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT** Morgan Vanosten  
**SPECIES** Canine  
**BREED** Golden Retriever  
**SEX** Female Spayed  
**AGE** 13 years 7 mos  
**WEIGHT** 59 lbs  
**INTERPRETED BY** Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)  
**IMAGING PERFORMED BY** Chloe Lowe, CVT  
**HOSPITAL NAME** Andover AH  
**REFERRING VET** Dr. Lawlor

- Elevated ALP
- Lethargy
- Hyporexia
- Mild muscle wasting and chronic OA
- Various SQ masses

Medications: Dasequin, Welactin, Ursolyx, heartworm preventative  
 Abnormal PE/Chem/CBC/UA Results: ALP 416, Amylase 2006

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder wall is normal in thickness. The mucosal surface is smooth. The bladder is moderately distended. A small amount of suspended echogenic debris is observed within the lumen. No cystic calculi are observed. The region of the trigone and visible portion of the proximal urethra are normal.

The left kidney is normal in size (6.11 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. Numerous hyperechoic foci are observed throughout the cortex. At least one, small cortical cyst is seen. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal in size (7.34 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. Numerous hyperechoic foci are observed throughout the cortex. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal in size (0.86 cm at cranial pole) (0.68 cm at caudal pole) with a normal shape. A 0.99 x 0.86 cm irregular, hyperechoic- to heterogenous nodule is observed at the cranial pole. A 0.61 x 0.51 cm irregular, hyperechoic- to heterogenous nodule is also observed at the caudal pole. The phrenicoabdominal vein and surrounding vasculature appear normal.

The right adrenal gland is mildly enlarged (2.02 cm at cranial pole) (0.81 cm at caudal pole) with a normal shape. An ill-defined hyperechoic area is observed at the cranial aspect. Glandular echogenicity and detail at the caudal aspect are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**Spleen**

The spleen is overall normal in size (2.22 cm in width at the level of the hilus). At the cranial pole, a 2.3 x 2.0 cm hyperechoic- to heterogenous expansile mass is visualized. In addition, a 1.3 x 1.2 cm hyperechoic- to heterogenous slightly expansile nodule is observed at the lateral aspect, approximately mid-body. The remainder of parenchyma appears homogenous. Splenic vasculature is normal with no evidence of thrombosis.

**Liver**

The liver is subjectively enlarged, with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and subtly heterogenous in appearance. At least two- to three isoechoic swellings/masses are observed at the caudal aspect (one of the swellings measuring 4.7 cm in its longest dimension). Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

The gallbladder is of normal contours and contains some dependent echogenic debris. The wall is normal in

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**PATIENT** thickness. No choleliths are observed. The cystic and common bile ducts are normal/not seen.

Morgan Vanosten

**Gastrointestinal**

The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall is normal in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

**SPECIES**

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**Pancreas**

Golden Retriever

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is slightly hypoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

**SEX**

**Lymph Nodes**

Female Spayed

The abdominal lymph nodes are normal/not visible.

**AGE**

**Free Abdomen**

13 years 7 mos

There is no obvious evidence of free fluid.

**WEIGHT**

**Other**

59 lbs

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

**ULTRASONOGRAPHIC FINDINGS**

**INTERPRETED BY**

**Primary Findings**

Andrea Nicastro, DVM,  
 Diplomate ACVIM  
 (Small Animal Internal  
 Medicine)

- The hepatic swellings/masses could be consistent with a benign process (i.e., vacuolar hepatopathy, regenerative nodules). Alternatively, emerging neoplasia (i.e., adenomas, round cell neoplasia) is possible.
- The splenic lesions could be consistent with benign myelolipomas or emerging neoplasia (i.e., sarcoma, other).

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**Secondary Findings**

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- Bilateral nonspecific age-related renal changes with nonobstructive nephrocalcinosis
- The bilateral adrenal nodules could be consistent with focal nodular hyperplasia, adenomas, emerging adenocarcinomas, pheochromocytomas, other.

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- Gallbladder debris, non-mucocele
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Three-view thoracic radiographs are recommended to assess for pulmonary metastases.
- Consider fine-needle aspirates of the hepatic swellings and splenic lesions (assuming normal clotting status). Twenty-five gauge-needles should be used. Depending on the results, consultation with a board-certified oncologist may be indicated.



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- Regarding the adrenal changes, consider further testing for Cushing's disease if clinical signs develop in the future. A repeat ultrasound is also recommended in 2-3 months to assess for growth of the lesions.

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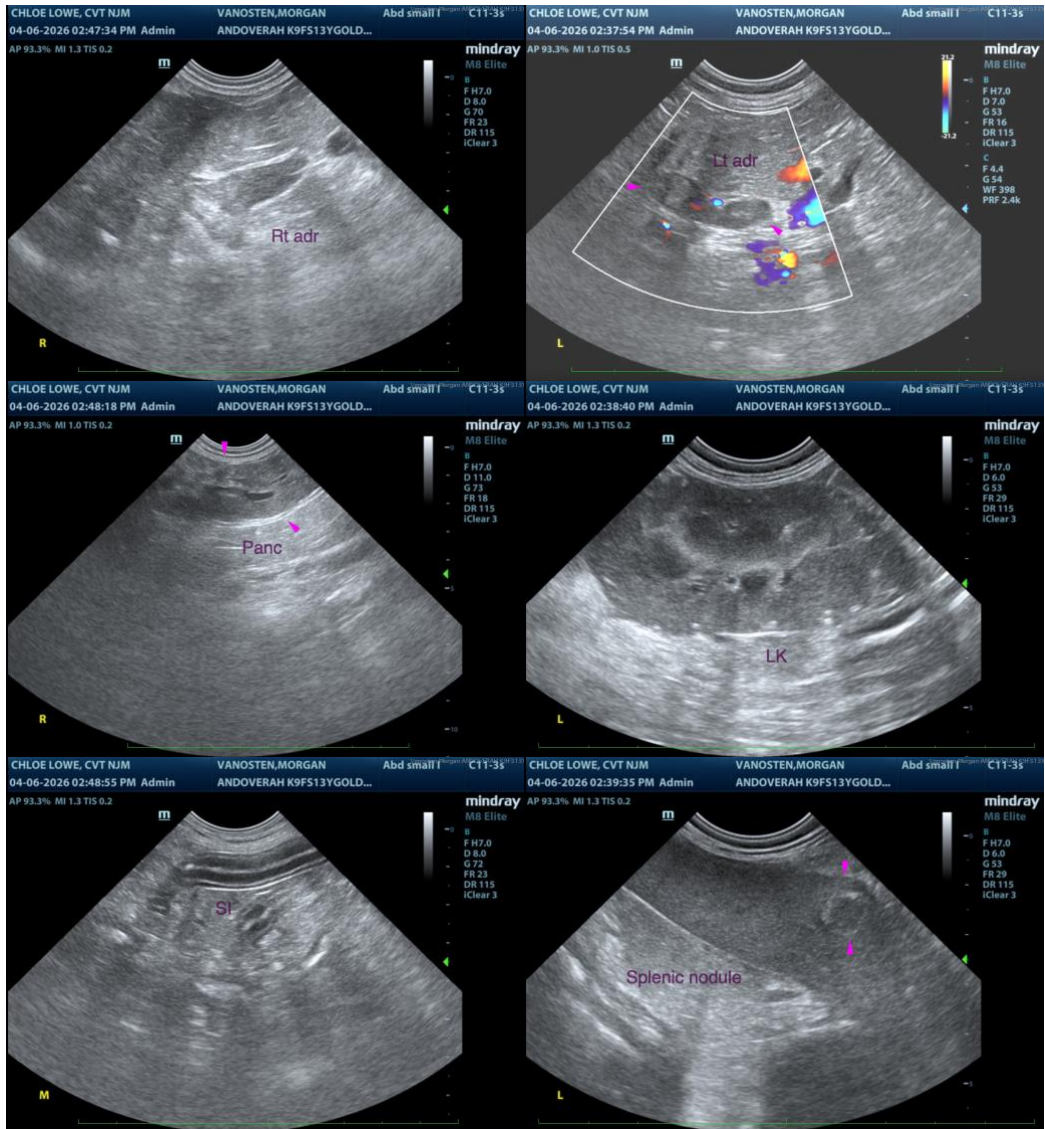
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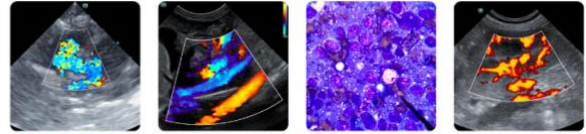
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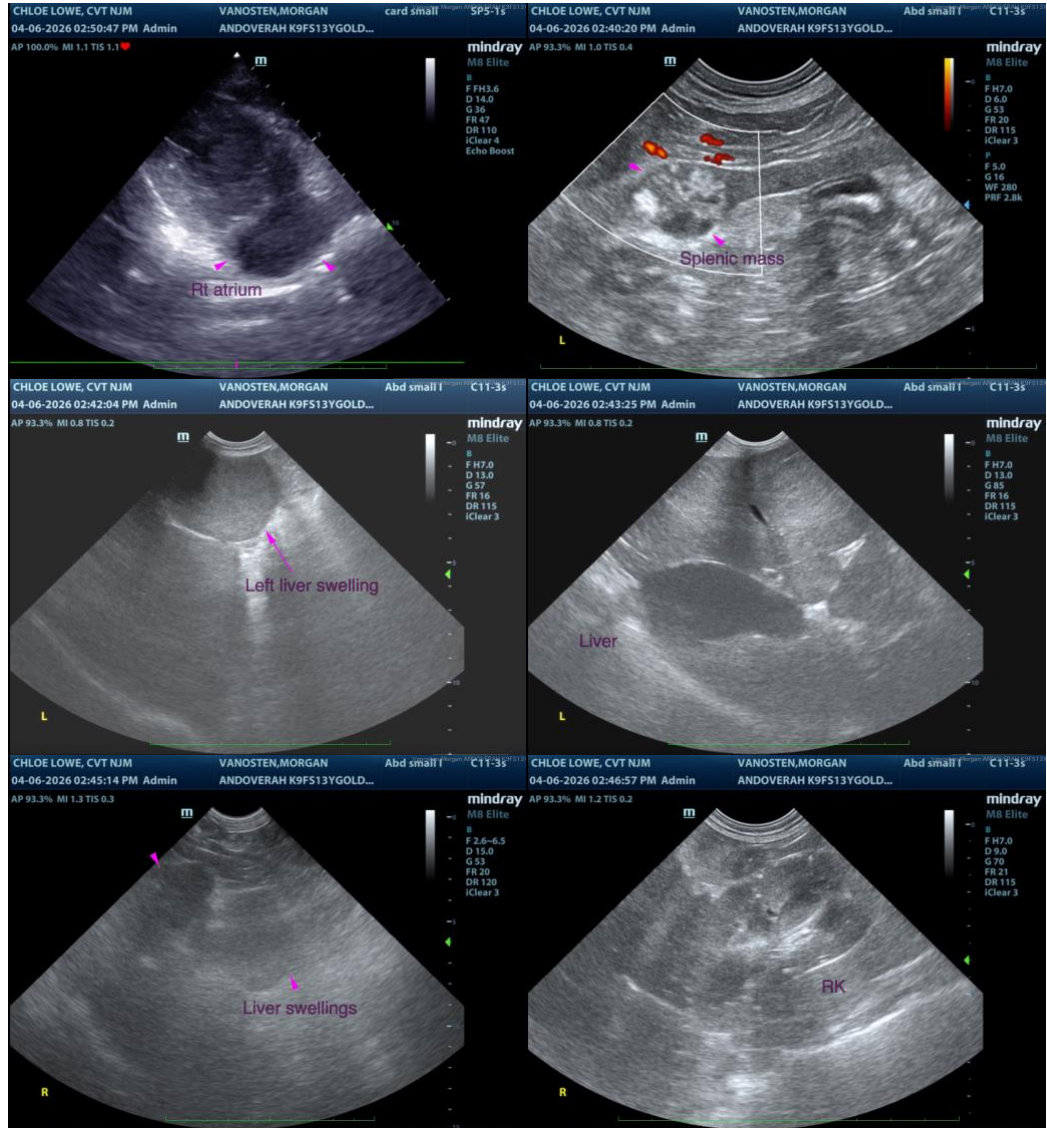
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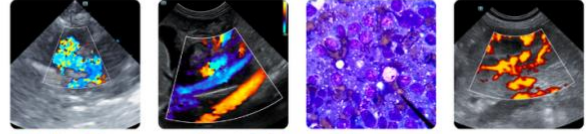
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)**  
[info@SonoPath.com](mailto:info@SonoPath.com)



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