



**PATIENT**

Echo Moore

**PRESENTING CLINICAL SIGNS**

History: Abdominal ultrasound performed to screen for underlying causes of reoccurring UTI as well as evaluating liver and other organs.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**BREED**

Labrador

The urinary bladder is well filled. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

**SEX**

Spayed Female

The left kidney is approximately 5.61 cm. The capsule is smooth. Its overall architecture is well preserved. A very mild loss of the normal definition of the cortico-medullary junction is present, which is not uncommon for a dog of Echo's age. Very mild diverticular mineralizations are observed, without signs of nephroliths or pyelectasia, in addition to mild accumulation of fat within the pelvis. The surrounding mesentery is not hyperechoic.

**AGE**

11 years

The right kidney is within normal limits in size for the patient's weight (6.13 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, are preserved, other than a very subtle loss of the normal definition of the cortico-medullary junction. Very mild diverticular mineralizations are observed, without signs of nephroliths or pyelectasia, in addition to mild accumulation of fat within the pelvis. The surrounding mesentery is not hyperechoic.

**WEIGHT**

51 lbs

**Adrenal Glands**

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

Left adrenal gland: A well-circumscribed mass effect, measuring 1.26 cm x 1.32 cm is present at the caudal pole. The cranial pole measures 0.61 cm (within normal limits). The total length of the gland is 2.04 cm. The mass effect is very mildly heterogeneous. The phrenicoabdominal vein and surrounding vasculature do not show any abnormalities.

The right adrenal gland measures 0.50 cm at the cranial pole and 0.56 cm at the caudal pole and 1.6 cm in length. No abnormalities are noted in the gland's shape, overall architecture, echogenicity or echotexture. The phrenicoabdominal vein and surrounding vasculature and mesentery are unremarkable.

**IMAGING PERFORMED BY**

Dr. Preston

**HOSPITAL NAME**

All Creatures AH of  
South Hill

**Spleen**

The capsule is smooth and the spleen is not considered enlarged. The spleen has a subtle mottled appearance in certain views; this may be real, but it also may be due to the sensitivity of the ultrasound machine. An obvious mass is not observed. If the observation is real, differential diagnoses include extramedullary hematopoiesis or mild splenitis (inflammation due to antigenic stimulation). However, early signs of neoplasia, such as lymphoma and mast cell tumour, may also present as a mottled pattern.

**REFERRING VET**

Dr. Preston

**INVOICE**

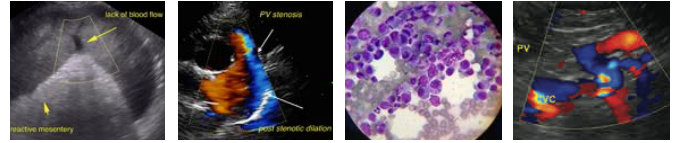
97873

**Liver**

There are no obvious signs of hepatomegaly and the liver's borders are smooth and sharp. It is mildly, but diffusely hyperechoic (i.e., it is isoechoic to the spleen). The latter is a non-specific change, which may be suggestive of a vacuolar hepatopathy, which may occur as a result of hyperadrenocorticism or stress (chronic illness). Other differential diagnoses, such as hepatitis are considered unlikely.

**DATE**

3/28/22



**PATIENT**

Echo Moore

However, Labrador retrievers are predisposed to a copper hepatopathy, therefore, if hyperbilirubinemia or a decreased urea, cholesterol or albumin are identified on blood work, further work up should be pursued.

**SPECIES**

Canine

The gallbladder wall appears to be within normal limits in thickness and echogenicity. There is no evidence of echogenic material (sludge) within the GB or edema surrounding it. The cystic and common bile ducts are not dilated or tortuous.

**BREED**

Labrador

**Gastrointestinal**

The gastric wall and pylorus are normal in thickness. There is no loss of definition of the normal architecture of the layers of the stomach wall. No obvious abnormalities are observed with its peristalsis.

**SEX**

Spayed Female

The small intestinal wall thickness is within normal limits and there is no evidence of dilation. The definition of the wall layers is preserved. The colonic wall is not thickened and mural detail is considered normal. There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction.

**AGE**

11 years

**Pancreas**

**WEIGHT**

51 lbs

Within normal limits regarding echogenicity and echotexture. There is no evidence of hyperechogenicity of the mesenteric fat; active pancreatitis is not suspected.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**Other**

Lymph nodes: No abnormalities are observed.  
Abdominal effusion is not visualized.

**IMAGING PERFORMED BY**

Dr. Preston

**ULTRASONOGRAPHIC FINDINGS**

**HOSPITAL NAME**

All Creatures AH of  
South Hill

- There are no abnormalities observed with the urinary bladder to explain the chronic, recurring, urinary tract infections. Immunosuppression may predispose an individual to urinary tract infections. The architecture of Echo's kidneys is well preserved for a dog of her age with only mild mineralization. There are no obvious signs of pyelonephritis; however, the latter cannot be excluded based on the absence of sonographic abnormalities.

**REFERRING VET**

Dr. Preston

- The well circumscribed mass at the caudal pole of the left adrenal gland may be due to a non-functional or functional adenoma. Therefore, further diagnostics for hyperadrenocorticism, such as, an ACTH stimulation test or low-dose dexamethasone suppression test are recommended.

**INVOICE**

97873

- A subtle mottled appearance is observed with the spleen in certain views. This may be due to extramedullary hematopoiesis, however a "sensitive" ultrasound machine can "pick up" details that may not normally be seen and overinterpretation may occur. If the mottling is more apparent than usual, differential diagnoses other than extramedullary hematopoiesis and mild splenitis due to antigenic stimulation may include early infiltrative disease, such as lymphoma or mast cell neoplasia. In conclusion, the interpretation of the spleen should take into account

**DATE**

3/28/22



**PATIENT**

Echo Moore

the experience with one's machine; if there is any doubt that Echo's spleen is "more mottled" compared to other "normal spleens", a FNA of the spleen is warranted.

**SPECIES**

Canine

- The diffuse hyperechogenicity of the liver is highly suggestive of a vacuolar hepatopathy which may be due to stress i.e. chronic illness or hyperadrenocorticism. As mentioned above further diagnostics for hyperadrenocorticism are suggested. However, Labrador retrievers are predisposed to a copper hepatopathy, therefore, if hyperbilirubinemia or a decreased urea, cholesterol or albumin are identified on blood work, further work up should be pursued.

**BREED**

Labrador

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

An ACTH stimulation test or low-dose dexamethasone suppression test is recommended, in addition to an arterial blood pressure to rule out hypertension, to exclude hyperadrenocorticism.

**SEX**

Spayed Female

Recurrent urinary tract infections often occur in dogs with hyperadrenocorticism. If Echo is not suffering from a urinary tract infection at the moment, and hyperadrenocorticism is confirmed, a urine protein: creatinine ratio is suggested to exclude proteinuria.

**AGE**

11 years

Evaluation of the conformation of Echo's vulva and perivulvar region is recommended. Basic hygiene should be pursued on a daily basis with 0.025-0.05% chlorhexidine, ensuring the area is kept dry to decrease risk of infection.

**WEIGHT**

51 lbs

A FNA of the spleen may be warranted depending on the experience with your ultrasound machine and interpretation of "normal spleens". However, if there is a doubt, a FNA of the spleen is suggested.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Preston

**HOSPITAL NAME**

All Creatures AH of  
South Hill

**REFERRING VET**

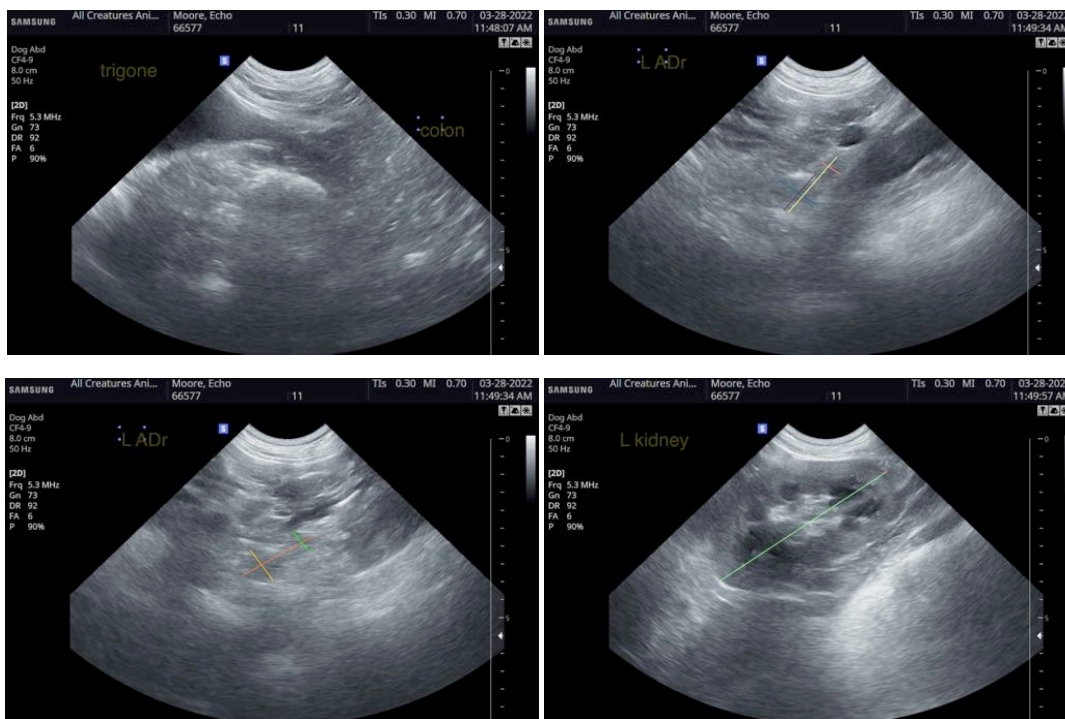
Dr. Preston

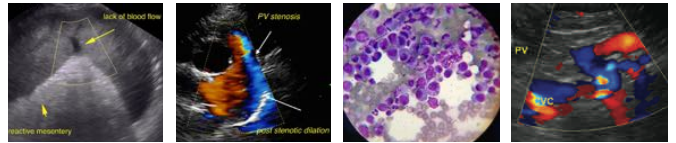
**INVOICE**

97873

**DATE**

3/28/22





**PATIENT**

Echo Moore

**SPECIES**

Canine

**BREED**

Labrador

**SEX**

Spayed Female

**AGE**

11 years

**WEIGHT**

51 lbs

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Preston

**HOSPITAL NAME**

All Creatures AH of  
South Hill

**REFERRING VET**

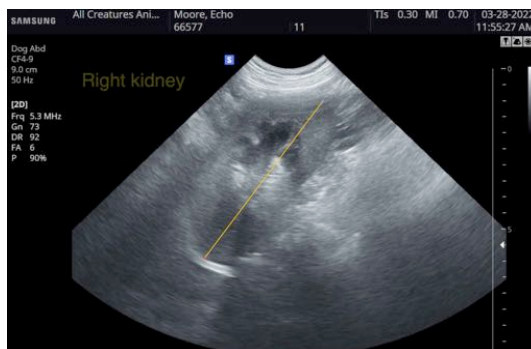
Dr. Preston

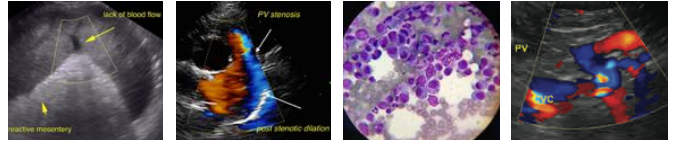
**INVOICE**

97873

**DATE**

3/28/22





**PATIENT**

Echo Moore

**SPECIES**

Canine

**BREED**

Labrador

**SEX**

Spayed Female

**AGE**

11 years

**WEIGHT**

51 lbs

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING  
PERFORMED BY**

Dr. Preston

**HOSPITAL NAME**

All Creatures AH of  
South Hill

**REFERRING VET**

Dr. Preston

**INVOICE**

97873

**DATE**

3/28/22



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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)