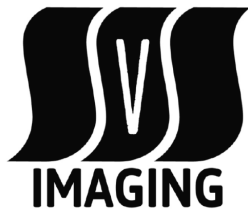


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SVS Mobile Imaging MI 734 - 637 - 7711  
svsimagingmi@gmail.com



**PATIENT**

Lily Albers

**SPECIES**

Canine

**BREED**

Flat Coated Retriever

**SEX**

Spayed Female

**AGE**

11.5 Years

**WEIGHT**

65 Pounds

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging Michigan

**REFERRING VET**

Wixom Family Pet  
Practice

**INVOICE**

36853

**DATE**

4/13/22

**PRESENTING CLINICAL SIGNS**

Chronic intermittent history of bilious vomiting/gagging. Improves with Pepcid and Cerenia. Omeprazole made it worse.

Abnormal PE/Chem/CBC/UA Results: See attached BW and previous AUS. Previous aspiration of spleen in 2021 revealed lymphoid hyperplasia and mild EMH.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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

The **left** kidney measures 6.33 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, is preserved, particularly for a dog of Lily’s age. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. An accumulation of fat is noted within the pelvis. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 6.67 cm. Findings are similar to the left kidney.

**Adrenal Glands**

The **left** adrenal gland measures 0.48 cm at the cranial pole, 0.67 cm at the caudal pole and 2.23 cm in length. Although no abnormalities are observed with its overall echogenicity or echotexture, the caudal pole of the gland is slightly rounded or “plump”. An obvious nodule or mass is not observed. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.57 cm in diameter. A portion of the adrenal gland was not well visualized due to gas in the surrounding gastrointestinal tract. No abnormalities are observed with its overall echogenicity or echotexture and remains within normal limits in diameter. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**Spleen**

The spleen is within normal limits in size and the capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. Multiple, well-defined, hypoechoic nodules of variable size, are visualized throughout the parenchyma, although the tail appears to be the least affected compared to the head and body. The largest measures 1.49 cm in diameter x 1.54 cm in length. The most likely differential diagnoses based on the appearance of the nodules include nodular and/or lymphoid hyperplasia, as well as extramedullary hematopoiesis (EMH). Obvious signs of neoplasia are not observed.

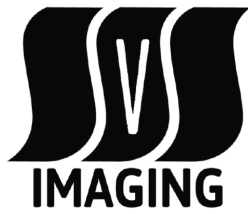
**Liver**

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver is very mildly hyperechoic. A diffuse, mildly coarse or granular echotexture is also observed. No obvious abnormalities are noted with the hepatic vessels.

The gallbladder wall is within normal limits in size, thickness and echogenicity. Its contents are anechoic. There are no signs of an obstruction based on the appearance of the biliary tree.

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Spayed Female

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**Gastrointestinal**

Gas is present within the stomach lumen. Subjectively, the submucosa is thicker than what is considered normal and fogging, stippling and subtle striations are noted. The architecture of the remaining wall layers is well preserved. An obvious mass or foreign is not observed.

The small intestinal wall thickness, including the duodenum, is within normal limits (0.35 cm, 0.29 cm) and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed. The ileo-cecal-colic junction and the surrounding mesentery are unremarkable.

Gas is present in the transverse colon. The colonic wall is not thickened and mural detail is considered normal. Formed fecal matter is present within the colon.

No abnormalities are observed with peristalsis of the gastrointestinal tract.

**Pancreas**

Both limbs of the pancreas have a mildly coarse echotexture and are mildly heterogeneous. The right limb is mildly more affected compared to the left, however. Pinpoint and very small punctate hyperechoic foci are dispersed haphazardly throughout the parenchyma, in addition to small, hypoechoic nodules of variable size. These changes are suggestive of fibrosis and nodular hyperplasia, respectively; both of which may be due to age-related changes. Fibrosis may also occur due to previous episodes of pancreatitis. Signs of active pancreatitis or neoplasia are not appreciated.

**Other**

**Lymph nodes** No abnormalities are observed.

**Abdominal effusion** is not visualized.

**ULTRASONOGRAPHIC FINDINGS**

- Very mild mineralizations are observed with both kidneys. These changes are not considered clinically significant.
- The mildly “plump” caudal pole of the left adrenal gland is not considered clinically significant.
- Lily’s spleen had a similar appearance to her previous ultrasound performed in February 2021. Cytology results at that time were consistent with lymphoid hyperplasia and extramedullary hematopoiesis. Re-aspirations of the spleen are not considered necessary based on today’s images.
- The mild, but diffuse hyperechogenicity of the liver, and mildly coarse or granular echotexture may be due to vacuolar and reactive hepatopathies, respectively. A vacuolar hepatopathy may occur due to stress (chronic illness), such as chronic, intermittent vomiting. Differential diagnoses for a diffusely hyperechoic liver include, hepatitis, cholestasis and cholangitis/cholangiohepatitis. The latter are considered unlikely based on Lily’s history and laboratory results.
- The pancreatic changes are suggestive of fibrosis and nodular hyperplasia; both of which may be due to age-related changes. Fibrosis may also occur due to previous episodes of pancreatitis. Signs of active pancreatitis or neoplasia are not appreciated.
- The gastric abnormalities observed are very subtle and somewhat subjective. They may be caused by chronic vomiting, however, underlying inflammation, such as inflammatory bowel disease, including a food intolerance, cannot be excluded. Infiltrative disease, such as lymphoma

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**PATIENT**

Lily Albers

or other round cell tumour is considered unlikely based on the sonographic changes, however, biopsies are required to exclude neoplasia with certainty. That is, inflammation is suspected; gastroesophageal reflux disease (GERD) and secondary esophagitis are likely contributing to her clinical signs. Evaluation of Lily's history for signs of GERD is recommended.

**SPECIES**

Canine

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Evaluation of Lily's history for signs of GERD is recommended.

**BREED**

Flat Coated Retriever

The consistency of Lily's stools should also be evaluated.

**SEX**

Spayed Female

A veterinary prescription brand hypoallergenic diet, whether hydrolyzed or novel protein, should be tried. Multiple diets may be required, including canned food, as some individuals cannot digest dry. The kibble may be soaked if canned food is cost prohibitive.

**AGE**

11.5 Years

Small, frequent meals are recommended, including a small snack prior to going to bed.

**WEIGHT**

65 Pounds

If there is no response to deworming and diet trials, endoscopy and biopsies of the upper and lower GI tract are suggested.

If further diagnostics are not pursued, although not ideal, empirical treatment to treat secondary inflammation caused by the chronic vomiting and retching is suggested. For example, a dose of prednisone or prednisolone may be administered (0.5 mg/kg/day), in addition to a hypoallergenic diet, that is easily digestible, but appetizing to prevent catabolism and sarcopenia.

**INTERPRETED BY**

Lisa Carioto, DVM,  
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A baseline (random) cortisol is suggested to exclude hypoadrenocorticism if clinical signs persist.

Although some treatment recommendations have been described, an internal medicine consult may be requested to describe all possible options in greater detail. This may be done by email or telephone.

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Amy Mayhew, LVT

**HOSPITAL NAME**

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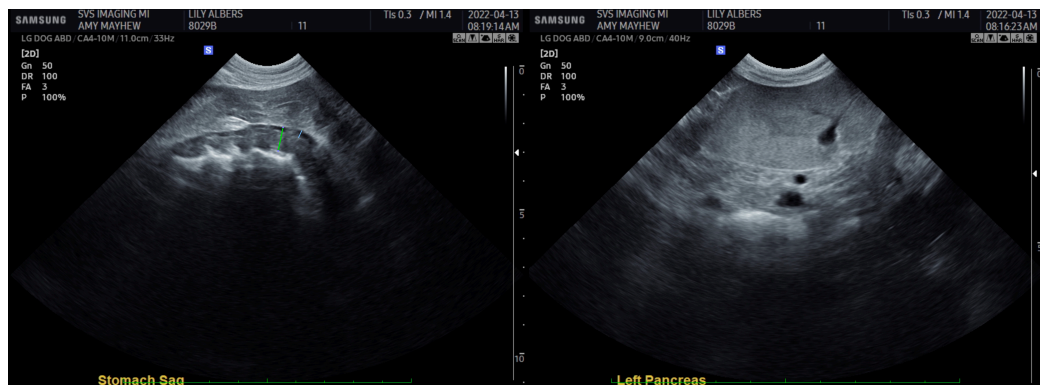
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**AGE**

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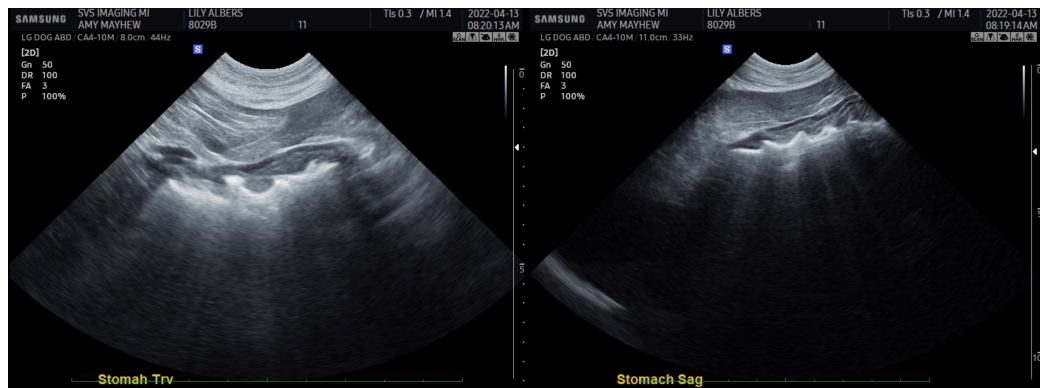
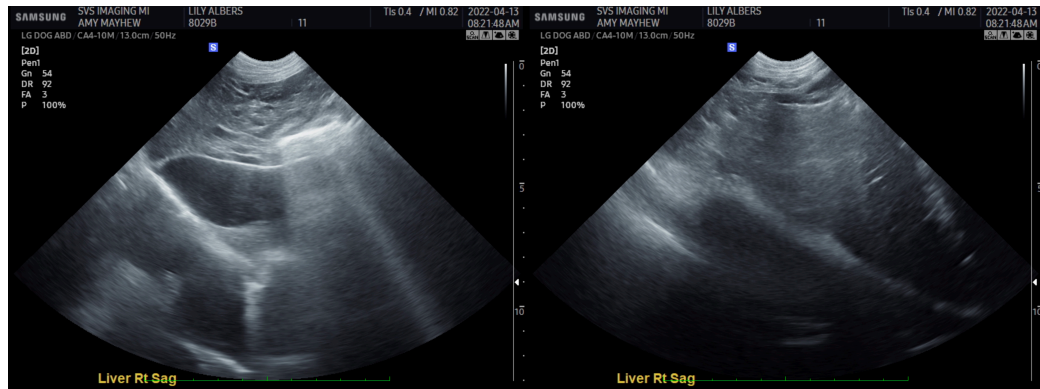
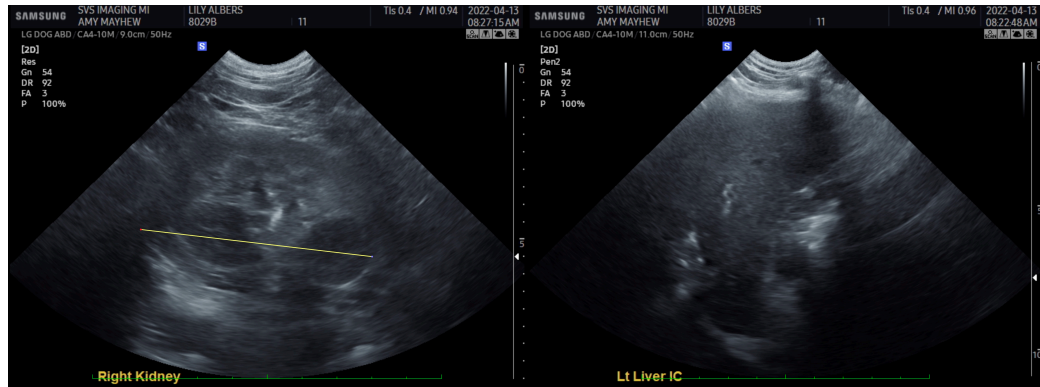
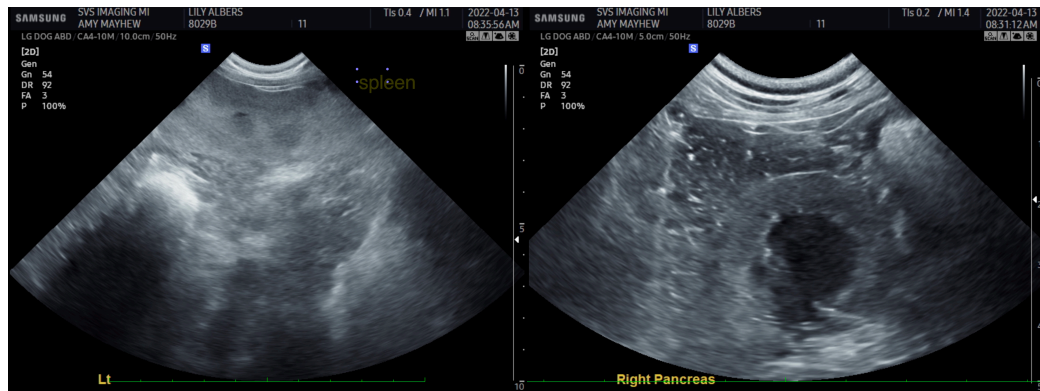
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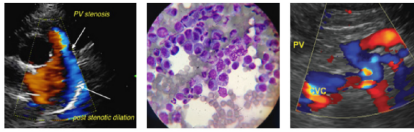
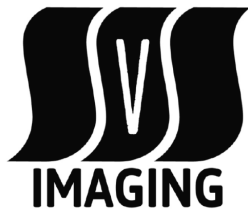
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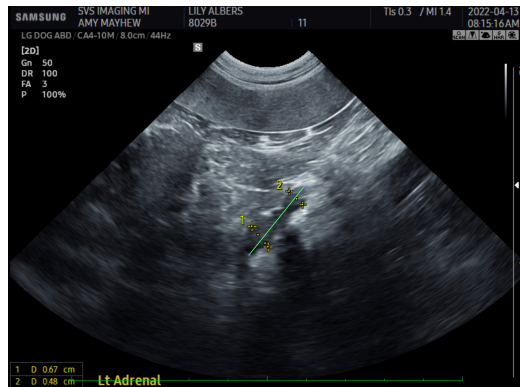
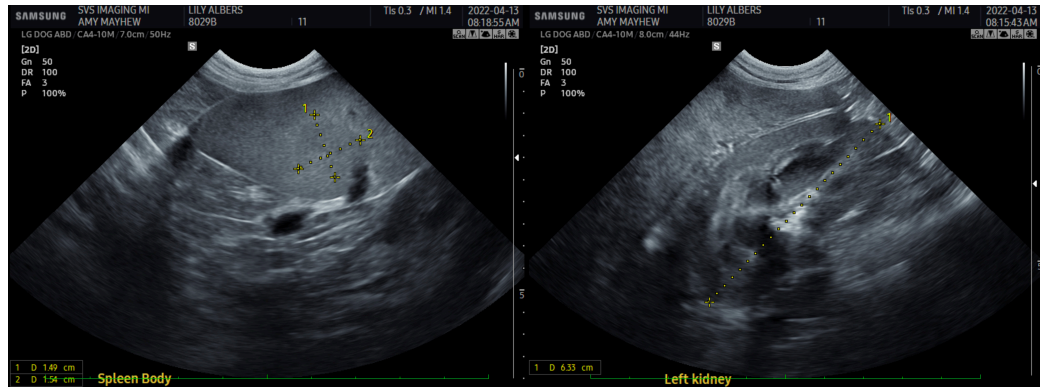
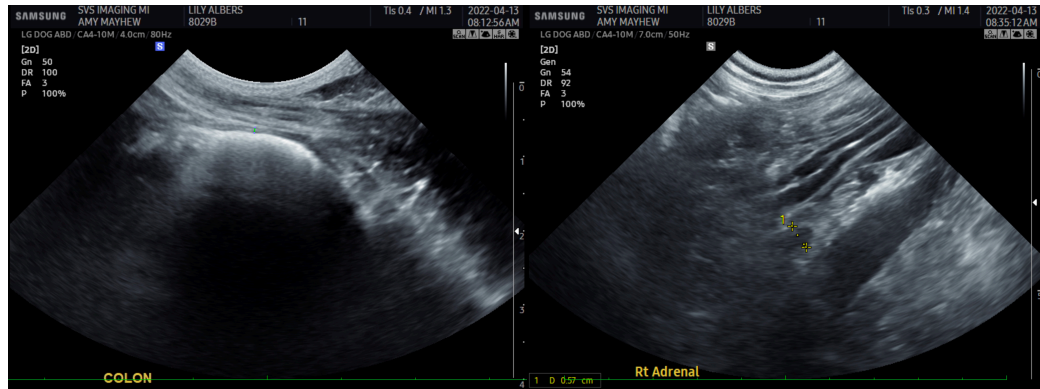
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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