

IMAGING PERFORMED BY

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

**PATIENT**

Mr. Raggs Mackovyak

SPECIES

Canine

BREED

Scottish Terrier X

SEX

Neutered Male

AGE

11 Years

WEIGHT

30 Pounds

INTERPRETED BY

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

IMAGING PERFORMED BY

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Briarwood Vet
Hospital

INVOICE

39537

DATE

7/14/22

PRESENTING CLINICAL SIGNS

elevated liver enzymes. appetite and drinking habits wax and wane.
Abnormal PE/Chem/CBC/UA Results: ALT@274 ALKP @867

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.94 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.62 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.78 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.36 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.54 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is an ill-defined hypoechoic nodule visualized within the splenic parenchyma, measuring 1.23 cm in diameter.

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a discrete hyperechoic nodule visualized measuring approximately 2.72 cm x 3.88 cm towards the periphery of the liver.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

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The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

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The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measured 0.51 cm. Jejunum wall measured 0.38 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

SEX

Neutered Male

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

WEIGHT

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ULTRASONOGRAPHIC FINDINGS**INTERPRETED BY**Kathleen Sennello DVM,
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- Small hypoechoic nodule visualized within the spleen – There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large, heterogeneous liver with hyperechoic mass effect – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The hyperechoic lesion visualized could represent a benign or cancerous lesion.
- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

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Amy Mayhew, LVT

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**HOSPITAL NAME**

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There is a small focal mass effect visualized within the liver. This could represent a benign or neoplastic lesions. Given that Scotties have a higher incidence of hepatic neoplasia, I would recommend a contrast CT Scan to better delineate this lesion and look for other more subtle lesions and consider surgical removal. Additionally, a fine needle aspirate could be considered prior to this to rule out the possibility of a non-primary liver lesion (metastatic disease). This is a relatively small lesion and located peripherally, so I feel it could be a good candidate for surgery. At that time, biopsies of the more normal liver tissue could be obtained as well.

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It is unclear if the mass lesion observed is responsible for the liver enzyme elevation reported, as there could be a more generalized hepatopathy present as well. Recommend a liver function test to obtain a baseline, and a fine needle aspirate of the liver, but if the liver mass is being pursued for possible removal, a biopsy could be obtained at the time of surgery.

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Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

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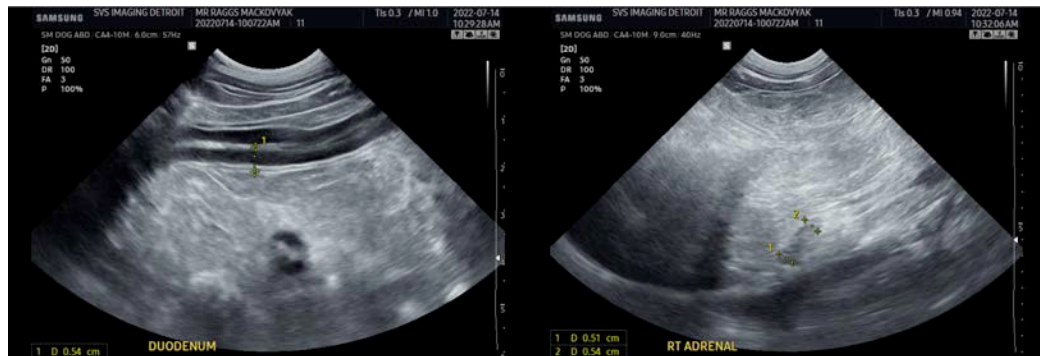
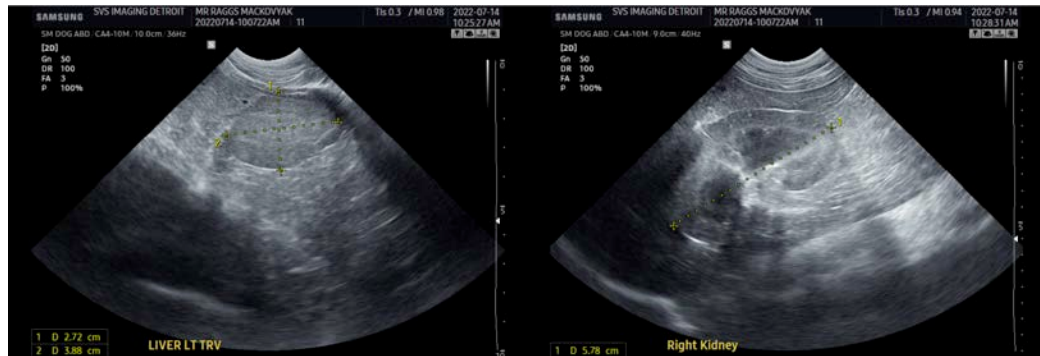
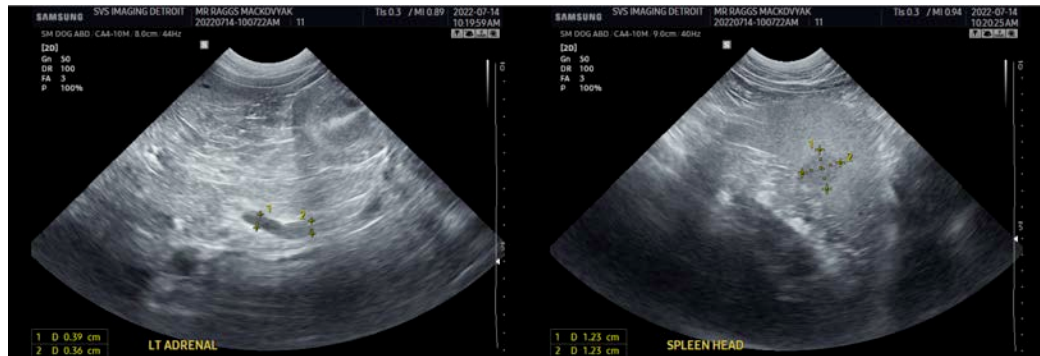
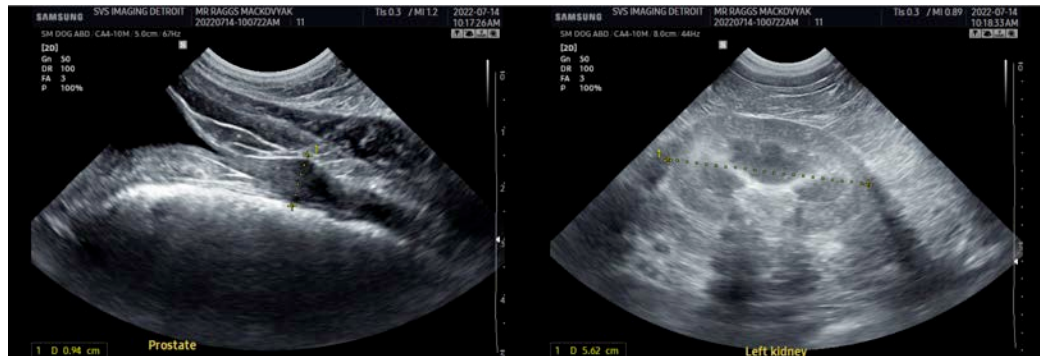
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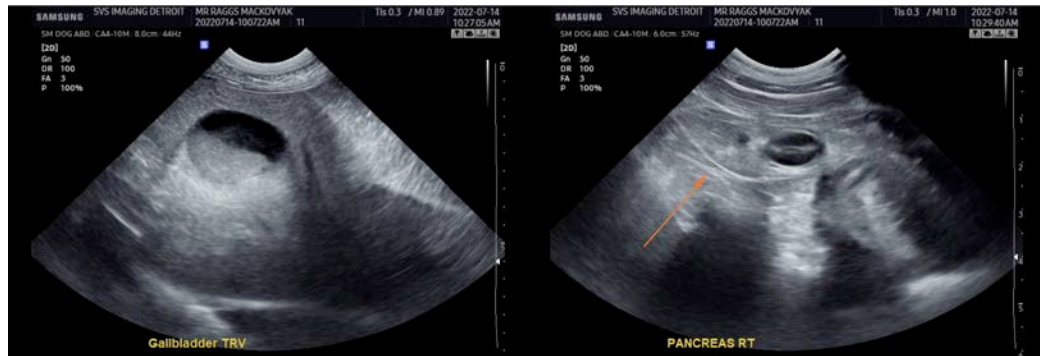
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com