

**PATIENT**

Oliver Kosciolk

SPECIES

Canine

BREED

Scottish Terrier X

SEX

Neutered Male

AGE

14 Years

WEIGHT

32 Pounds

INTERPRETED BYBeth Johnson, DVM
DACVIM**IMAGING PERFORMED BY**

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

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42735

DATE

11/10/22

PRESENTING CLINICAL SIGNS

Repeat ultrasound as recommended. Clinical signs stable.

Abnormal PE/Chem/CBC/UA Results: Coags and platelet count normal. FNA of liver submitted for cytology today.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.65 cm). A shadowing cystolith is noted measuring 0.40 cm. Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

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

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia or infarcts observed. The left kidney measures 5.22 cm. A cortical cyst is noted in the left kidney. The right kidney measures 5.27 cm. Non-obstructive areas of mineralization/nephroliths are noted in the right kidney.

Adrenal Glands

The right adrenal gland is normal in size (0.54 cm at the caudal pole, cranial pole is not well visualized), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.45 cm at the cranial pole and 0.50 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The 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). A 0.8-0.9 cm hypo- to anechoic/cystic nodule is noted in the mid body, non-capsule disrupting. A second similar appearing, slightly smaller nodule is noted near the head of the spleen. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Specifically, the discrete hypoechoic nodules differ in size, but all are at or under approximately 1.0 cm in diameter. The previously noted target lesions are less visible today. The previously described mid caudal liver mass is similar in size. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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 observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Multifocal discrete hypoechoic liver nodules** – These trend toward a benign appearance and are consistent with possible nodular hyperplasia, especially given the static nature compared to the previous exam. Infiltrative neoplasia cannot be ruled out but is considered slightly less likely for the diffuse change.
- **Mid liver mass** – This is more concerning for possible infiltrative neoplasia. However, a benign neoplasia (i.e., hepatoma/adenoma) is possible and cannot be distinguished from a malignant hepatocellular carcinoma versus other without tissue sampling.

SECONDARY FINDINGS

- **Chronic Cystitis with a cystolith** - Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely given the location and diffuse nature of the changes. This change is similar in appearance to the last ultrasound.
- Age related renal changes with left cortical cyst and right non-obstructive nephroliths
- **Hypo to anechoic splenic nodules** – likely represent benign lesions such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out. These nodules are relatively static to the last ultrasound.
- **Gallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili. This is a relatively static change.

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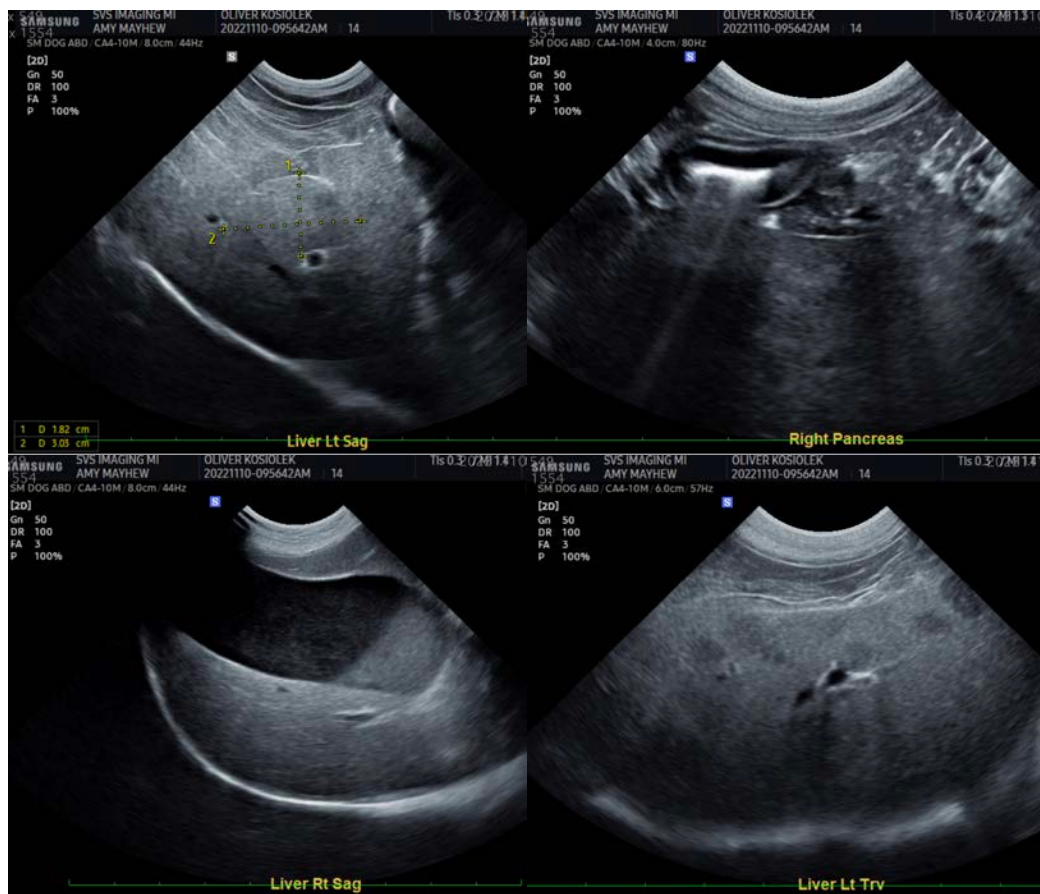
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- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs. The previously noted nodule is not as clearly visible in these images.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, this exam is relatively static to the previous exam. If not previously evaluated, Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

A fine needle aspirate of the liver, as is reportedly already pending, is recommended.



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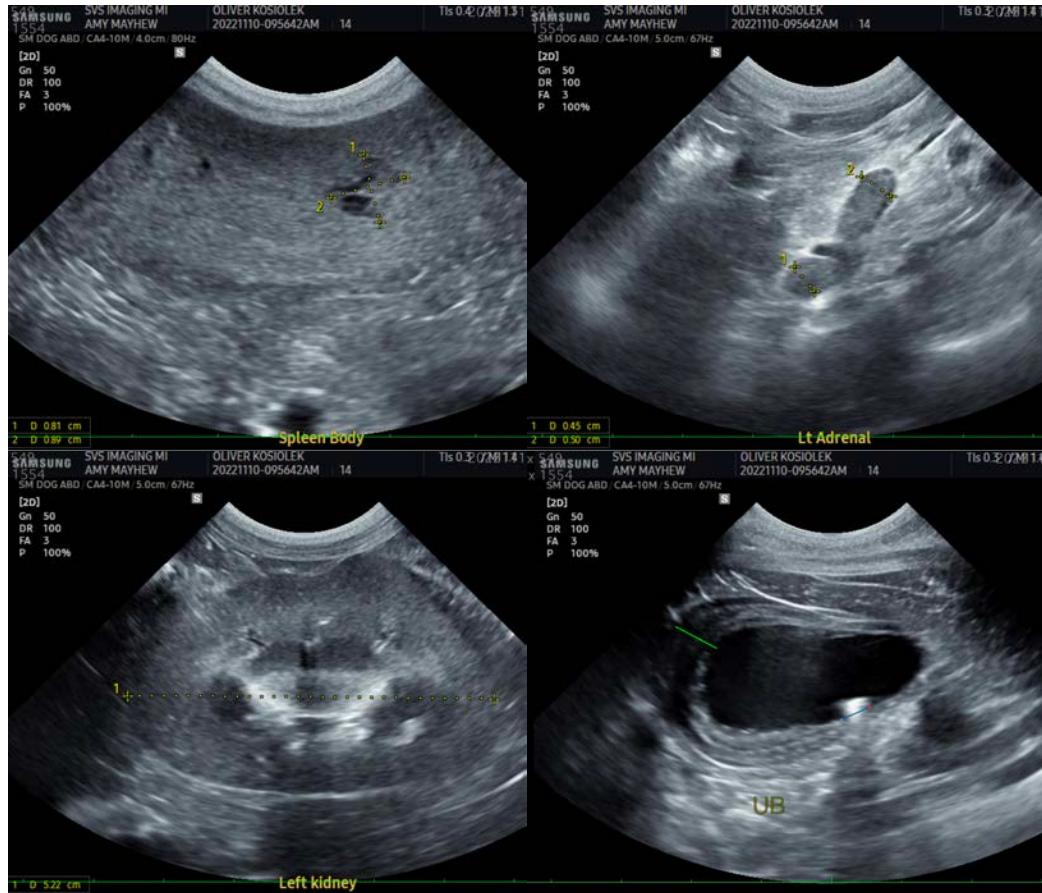
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com