

PATIENT

Otis Ross

SPECIES

Canine

BREED

Poodle Cross

SEX

Neutered male

AGE

7 years

WEIGHT

9.8 kg

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Kelly Reshny, RVT

HOSPITAL NAME

Governors Road AH

REFERRING VET

Dr. Dogar

INVOICE

99970

DATE

4/27/22

PRESENTING CLINICAL SIGNS

History: continuously elevated liver enzymes meds: hepato support
Abnormal PE/Chem/CBC/UA Results: TP: 87 ALB: 41 GLOB: 46 ALT: 693 ALKP: 1901 4DX:
Negative

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended with anechoic contents. The wall is mildly irregular and a soft tissue structure, originating from the mucosa, is observed. It measures 2.2 mm in diameter x 2.4 mm in length. The latter is highly suggestive of a polyp. An echogenic structure with an acoustic shadow, consistent with a cystolith is noted. It measures approximately 8 mm in length. Free floating sediment is not noted. There is no evidence of a mass. No abnormalities are noted with the trigone or proximal urethra.

Prostate

The prostate is homogenous and within normal limits for a neutered male.

Kidneys

The **left** kidney measures 4.92 cm. The capsule is smooth. The cortex is mildly to moderately hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations and very small nephroliths (2.5 to 3.0 mm) of the diverticulae are present, without evidence of pyelectasia. Blood flow is excellent. The surrounding mesentery is mildly hyperechoic.

The **right** kidney measures 4.72 cm. The cortex is moderately hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations and very small nephroliths of the diverticulae are present, without evidence of pyelectasia. Blood flow is excellent. The surrounding mesentery is not hyperechoic.

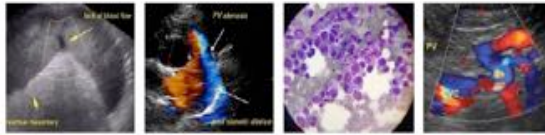
Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.59 cm at the cranial pole, 0.51 cm at the caudal pole and 1.69 cm in length. The cranial pole is "plump", and round, but a mass is not visualized. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.66 cm at the cranial pole, 0.48 cm at the caudal pole and 2.10 cm in length. A couple of punctate hyperechoic foci, which may be due to fat, mineralization, nodular hyperplasia or a combination of the three, are noted. No abnormalities are noted with the gland's



PATIENT overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Otis Ross

SPECIES *Spleen*

Canine The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

BREED

Poodle Cross

Liver

SEX

Mild hepatomegaly is suspected. The liver's borders are smooth and sharp. The liver's echotexture is mildly coarse and granular. It is mildly, but diffusely hyperechoic. No abnormalities are observed with the hepatic vessels visualized.

Neutered male

AGE

The gallbladder wall is within normal limits in thickness and echogenicity. A trivial amount of echogenic material is present within the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

7 years

WEIGHT

Gastrointestinal

9.8 kg

The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

INTERPRETED BY

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved, however, diffuse mucosal fogging of the small intestines is present. Abnormally dilated loops of bowel are not observed, however, the mesentery surrounding the small intestines is hyperechoic.

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

The colonic wall is not thickened and mural detail is considered normal.

IMAGING PERFORMED BY

Pancreas

Kelly Reshny, RVT

A small portion of the left limb is visualized; no abnormalities are observed.

HOSPITAL NAME

No overt abnormalities are observed with the right limb or the surrounding mesentery. Signs of active pancreatitis and neoplasia are not present.

Governors Road AH

REFERRING VET

Other

Dr. Dogar

Lymph nodes No abnormalities are observed

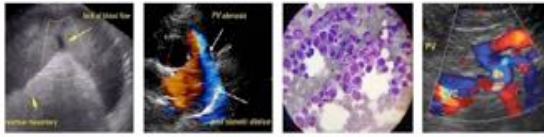
INVOICE

99970

Abdominal effusion is not visualized.

DATE

4/27/22



PATIENT	ULTRASONOGRAPHIC FINDINGS
<p>Otis Ross</p> <p>SPECIES</p> <p>Canine</p> <p>BREED</p> <p>Poodle Cross</p> <p>SEX</p> <p>Neutered male</p> <p>AGE</p> <p>7 years</p> <p>WEIGHT</p> <p>9.8 kg</p> <p>INTERPRETED BY</p> <p>Lisa Carioto, DVM, DVSc, Diplomate ACVIM</p> <p>IMAGING PERFORMED BY</p> <p>Kelly Reshny, RVT</p> <p>HOSPITAL NAME</p> <p>Governors Road AH</p>	<ul style="list-style-type: none"> • The hepatomegaly and mild, but diffuse hyperechogenicity of the liver, is suggestive of a vacuolar hepatopathy, which may occur due to stress (chronic illness), as well as the administration of glucocorticoids, or hyperadrenocorticism. Other causes of elevated liver enzyme activities, and the hepatic changes noted include, cholestasis, immune mediated hepatitis, hepatitis due to infectious causes, toxin exposure, medications, natural supplements, etc. Cholangitis/cholangiohepatitis with a secondary bacterial infection that cannot be excluded. Signs of cholecystitis are not appreciated. • The presence of sludge in the gallbladder is often clinically insignificant, however, some dogs may show clinical signs of gastroesophageal reflux disease (GERD), therefore, obtaining a history regarding signs of GERD from the client is suggested. Treatment with anti-acids, proton pump inhibitors or ursodeoxycholic acid may be required depending on the patient's history. • The intestinal changes are subtle and somewhat subjective, however, inflammation secondary to inflammatory bowel disease, must be considered. Gastrointestinal disease can increase hepatic enzyme activities. • A cystolith is present within the urinary bladder. The mucosa very mildly irregular is circumferentially, likely caused by inflammation due to friction. A polyp is suspected along the dorsal wall and a urinary tract infection cannot be excluded. There are no obvious signs of an obstruction. • Bilateral renal changes due to age-related degeneration is suspected, however, the presence of nephrolithiasis, hyperechoic cortices and surrounding mesentery increases the index of suspicion of pyelonephritis. The mineralizations and nephroliths are likely acting as a chronic nidus for infection. • The cranial pole of the left and right adrenal glands are at the high end of the normal reference range and mildly increased for a dog of Otis' stature, respectively. These findings may be due to adrenal hyperplasia secondary to stress, chronic illness or development of a benign adenoma. Adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism (HAC) is considered less likely based on the absence of clinical signs. Sonographic results should be correlated with clinical signs, i.e., further diagnostics are not necessary if Otis is not demonstrating clinical signs of HAC. • Microthrombi were possibly observed very briefly while the right adrenal gland was being evaluated, however, this could not be confirmed.

REFERRING VET

Dr. Dogar

INVOICE

99970

DATE

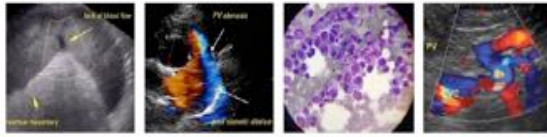
4/27/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A urinalysis and urine culture and sensitivity are recommended to exclude a urinary tract infection due to the presence of the cystolith, the mildly irregular bladder wall and possible polyp. The tests will also help rule out pyelonephritis.

An arterial blood pressure is recommended to exclude hypertension, ideally, in the presence of the client to decrease Otis' stress.

A fundic exam may also be performed.



PATIENT

Otis Ross

Obtaining a history regarding signs of GERD from the client is suggested. Treatment with anti-acids, proton pump inhibitors or ursodeoxycholic acid may be required depending on the patient's history.

SPECIES

Canine

Deworming with a broad spectrum dewormer is suggested.

BREED

Poodle Cross

A veterinary prescription brand hypoallergenic diet, whether hydrolyzed or novel protein, is suggested. However, the diet should also achieve a neutral pH and help prevent cystoliths.

Cholestasis, cholangitis/cholangiohepatitis cannot be excluded, despite the absence of abnormalities with liver enzyme activities on blood work. Secondary ascending bacterial infections may also occur. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic.

SEX

Neutered male

If there is no response to the above, endoscopy and biopsies of the upper and lower GI tract would normally be recommended, however, due to the presence of the cystolith, an exploratory laparotomy could be pursued to perform the GI biopsies, a hepatic biopsy and the cystotomy.

AGE

7 years

WEIGHT

9.8 kg

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Kelly Reshny, RVT

HOSPITAL NAME

Governors Road AH

REFERRING VET

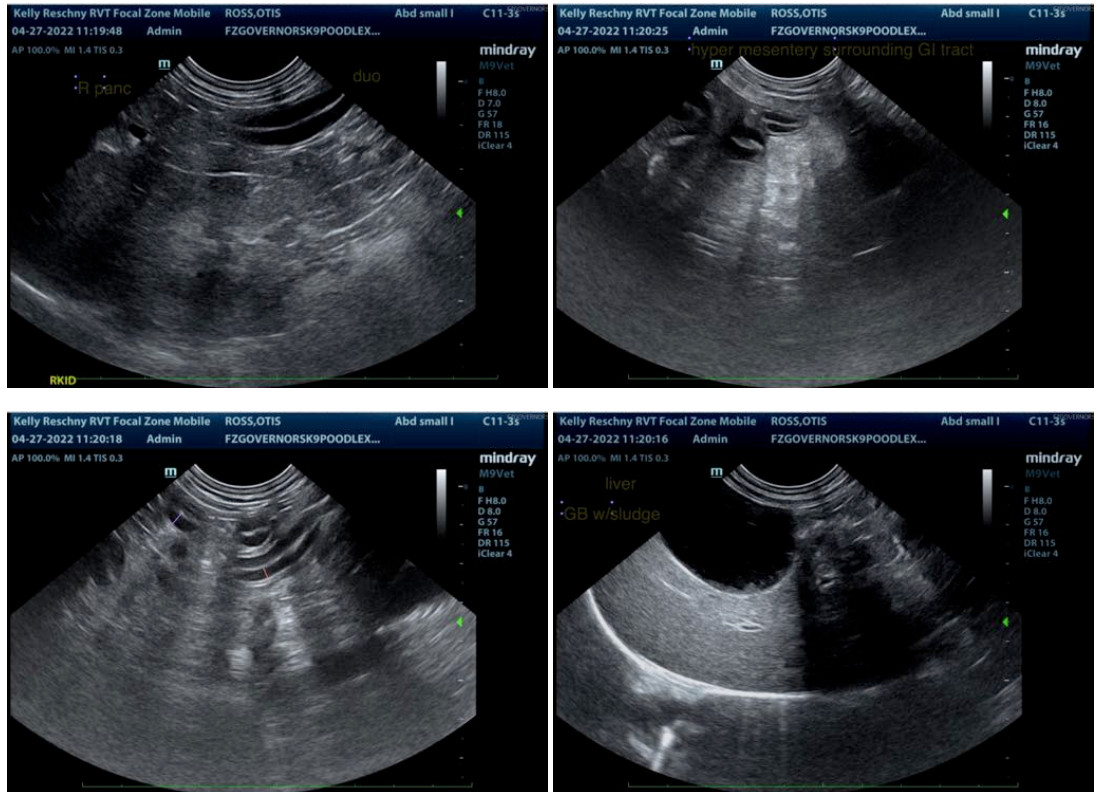
Dr. Dogar

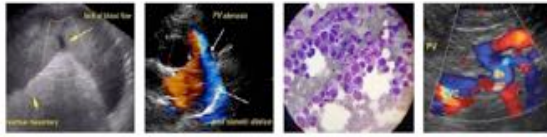
INVOICE

99970

DATE

4/27/22





PATIENT

Otis Ross

SPECIES

Canine

BREED

Poodle Cross

SEX

Neutered male

AGE

7 years

WEIGHT

9.8 kg

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Kelly Reshny, RVT

HOSPITAL NAME

Governors Road AH

REFERRING VET

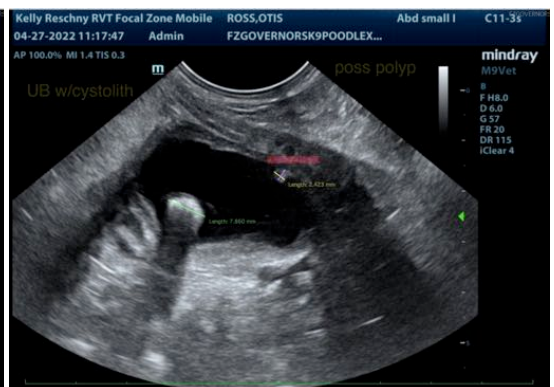
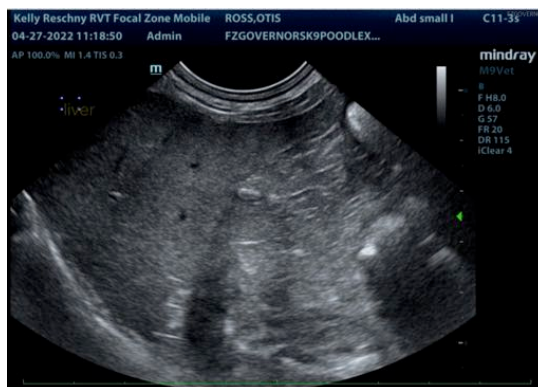
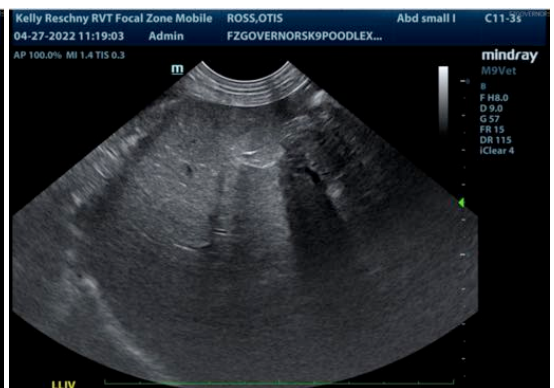
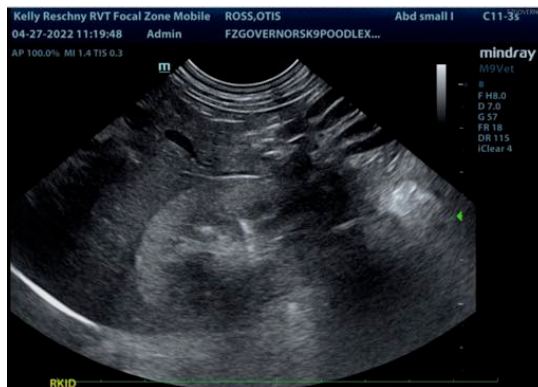
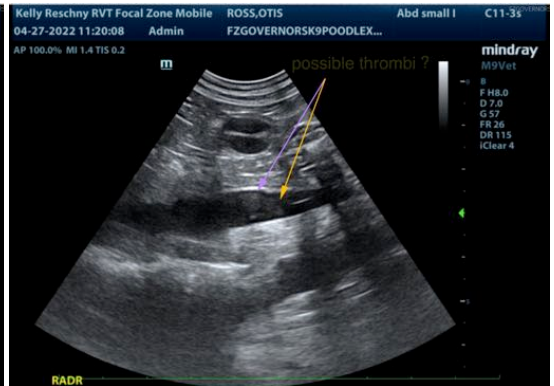
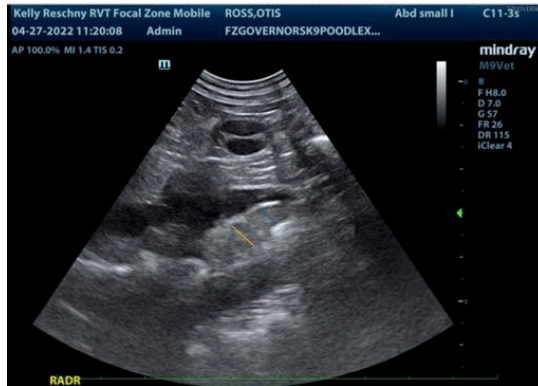
Dr. Dogar

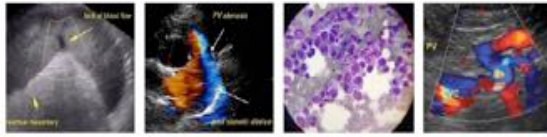
INVOICE

99970

DATE

4/27/22





PATIENT

Otis Ross

SPECIES

Canine

BREED

Poodle Cross

SEX

Neutered male

AGE

7 years

WEIGHT

9.8 kg

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Kelly Reshny, RVT

HOSPITAL NAME

Governors Road AH

REFERRING VET

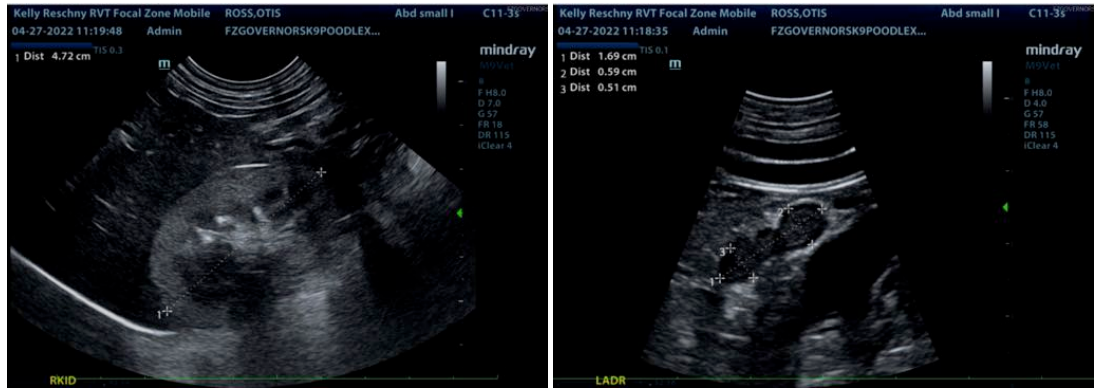
Dr. Dogar

INVOICE

99970

DATE

4/27/22



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