



PATIENT PRESENTING CLINICAL SIGNS

Charlie Conian

History: no improvement in V/D (occasional orange soft serve diarrhea). Not showing interest in food now; occasionally vomiting food or bile. On cerenia 60 mg x 1/2 tabd sid, metronidazole 250mg x 1 bid; sucralfate 1 g bid

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Golden Retriever Mix

The urinary bladder is adequately 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.

SEX

Spayed Female

Kidneys

AGE

10 years

The **left** kidney measures 6.30 cm. The capsule is smooth. Mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. Blood flow is considered within normal limits. The surrounding mesentery is mildly hyperechoic. A trivial amount of free fluid is observed surrounding the caudal pole.

WEIGHT

71.1 lbs

The **right** kidney measures 7.03 cm. Findings are similar to the left kidney. The surrounding mesentery is very mildly hyperechoic.

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

Aortic bifurcation/trifurcation

No abnormalities observed.

IMAGING PERFORMED BY

Diane McFadden, RVT

Adrenal Glands

HOSPITAL NAME

Andover AH

The **left** adrenal gland measures 0.88 cm at the cranial pole (enlarged), 0.63 cm at the caudal pole and 2.30 cm in length. A mass effect is not noted. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature are unremarkable. The mesentery surrounding the gland is mildly hyperechoic, which may be due to the ascites.

REFERRING VET

Dr. Vanderbogart

The **right** adrenal gland measures 1.01 cm at the cranial pole (enlarged), 0.94 cm at the caudal pole (enlarged) and 2.22 cm in length. Both poles are rounded and "plump", however, a mass is not observed. The sonographer obtained a different view of the gland, and slightly different measurements; 0.88 cm at the cranial pole, 0.83 cm at the caudal pole and 2.74 cm in length. Mid-body, 0.90 cm. The echotexture is very mildly "mottled", which may be due to nodular hyperplasia. A mass is not noted, however, in the sonographer's view, the shape is less of a "dumbbell" and thicker and more irregular. The phrenico-abdominal vein and surrounding vasculature are unremarkable. The mesentery surrounding the gland is mildly hyperechoic, which may be due to the ascites.

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DATE

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PATIENT

Spleen

Charlie Conian

Subjectively, the spleen may be mildly enlarged in length. It is within normal limits in architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. Perivascular cuffing is present, which is not considered clinically significant. A small amount of anechoic fluid is present ventral to the spleen. The mesentery surrounding the spleen is moderately hyperechoic.

SPECIES

Canine

BREED

Liver

Golden Retriever Mix

There are no obvious signs of hepatomegaly. Its borders are smooth and mildly rounded. The liver's echotexture is heterogeneous, i.e., it has a moth eaten appearance, with hypoechoic nodules that vary in echogenicity, as well as punctate hyperechoic foci. A mild amount of ascites is present surrounding the liver lobes. No abnormalities are observed with the hepatic vessels visualized. The right liver lobes are more homogeneous and mildly, but diffusely hyperechoic.

SEX

Spayed Female

AGE

10 years

The gallbladder wall is within normal limits in thickness and echogenicity. A trivial amount of echogenic material is present within the GB. The parenchyma surrounding the GB dorsally is hyperechoic, which may be due to inflammation or artifact secondary to abdominal effusion. The cystic and common bile ducts are not visualized, however, there are no obvious signs of an obstruction.

WEIGHT

71.1 lbs

Gastrointestinal

INTERPRETED BY

Lisa Carioto, DVM,
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Gas and fluid are present within the lumen of the stomach. The stomach measures 0.58 cm – 0.97 cm depending on location measured (thicker than normal reference range). The submucosa and subserosa are moderately thickened and well defined in some views, however, a moderate to severe loss of the normal definition of the wall layers is observed in other regions, including the fundus. The surrounding mesentery is moderately hyperechoic. No obvious abnormalities are observed with its peristalsis.

IMAGING PERFORMED BY

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved, however, the submucosa appears mildly more prominent than usual. Abnormally dilated loops of bowel are not observed.

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

Diane McFadden, RVT

HOSPITAL NAME

Andover AH

Pancreas

No overt abnormalities are observed with the echogenicity or echotexture of the left limb. The surrounding mesentery is mildly to moderately hyperechoic, however, this is attributed to the ascites, rather than pancreatitis.

REFERRING VET

Dr. Vanderbogart

An in-depth evaluation of the right limb is not possible, however, no overt abnormalities are observed.

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Other

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Lymph nodes

The gastric lymph node is mildly hypoechoic and mildly enlarged, with a very mildly irregular capsule. It measures 9.94 mm in diameter x 8.51 mm in length.



PATIENT

Abdominal effusion

Charlie Conian

A trivial amount of free fluid is observed surrounding the caudal pole of the left kidney.

SPECIES

A very small amount of anechoic fluid is noted surrounding the left liver lobes and the spleen, amongst some of the small intestines and urinary bladder.

Canine

Heart

BREED

Golden Retriever Mix

A brief video clip of the heart was submitted. Pericardial and pleural effusion are not identified. No abnormalities are observed with contractility. Cardiomegaly is not observed. A mass is not observed on evaluation of the right atrium or auricle. However, a mass may be overlooked in the absence of pericardial effusion.

SEX

Spayed Female

ULTRASONOGRAPHIC FINDINGS

AGE

10 years

- The hyperechogenicity of the liver is suggestive of a vacuolar hepatopathy, which may occur due to stress (chronic illness) or hyperadrenocorticism. Differential diagnoses, such as hepatitis, is considered less likely, however, cholestasis and cholangitis/cholangiohepatitis with a secondary bacterial infection cannot be excluded due to chronic vomiting. The hypoechoic nodules observed are most likely due to nodular regeneration, which is a benign, age-related change. The right liver is heterogeneous, which may be due to nodular regeneration, however, underlying neoplasia, such as a carcinoma or adenocarcinoma, cannot be excluded. Labrador retrievers are predisposed to copper hepatopathy.

WEIGHT

71.1 lbs

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Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

- The presence of sludge in the gallbladder is most likely 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 an anti-acid, proton pump inhibitor or ursodeoxycholic acid may be required depending on the patient's history.

IMAGING PERFORMED BY

Diane McFadden, RVT

- A component of the gastric thickening may be secondary to gastritis, due to Charlie's vomiting. The mildly prominent submucosa may be due to vomiting, as well as underlying inflammatory bowel disease. However, the loss of definition of the normal wall layering is concerning for neoplasia, for example, lymphoma, adenocarcinoma or carcinoma. Other differential diagnoses include leiomyoma and leiomyosarcoma.

HOSPITAL NAME

Andover AH

- The mildly enlarged lymph node and ascites also increase the suspicion for neoplasia, although the lymphadenomegaly may be due to reactive hyperplasia and a protein losing enteropathy is always possible.

REFERRING VET

Dr. Vanderbogart

- Bilateral adrenomegaly is suggestive of adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism, however, stress (chronic illness) cannot be excluded.

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- Mild to moderate renal changes are present, which are suggestive of age related degeneration, however, glomerulonephritis or interstitial nephritis cannot be excluded.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS



PATIENT

Charlie Conian

Fine needle aspirates of the stomach wall, abnormal liver lobe and lymph node (if possible) and abdominal effusion, are recommended. Please note, FNAs of the stomach and GI tract are not always diagnostic, i.e., the cells do not always exfoliate well.

SPECIES

Canine

Recommendations regarding further diagnostic tests and treatment may be made depending on the results of the blood work and urinalysis.

BREED

Golden Retriever Mix

Infectious diseases may also be considered with secondary gastroenterocolitis, therefore, a SNAP 4Dx and urine protein: creatinine ratio may be required.

SEX

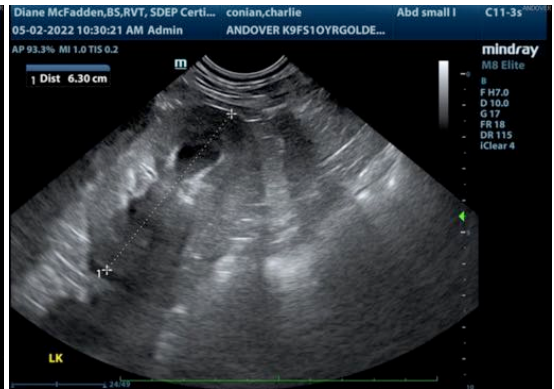
Spayed Female

AGE

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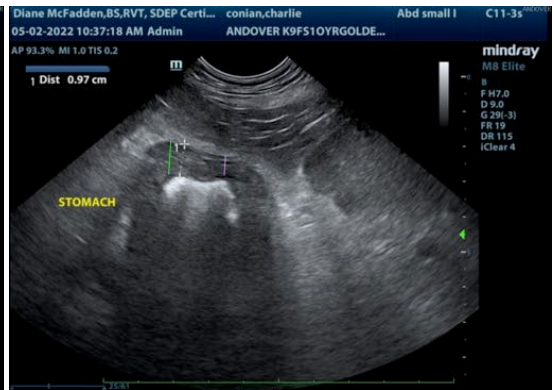
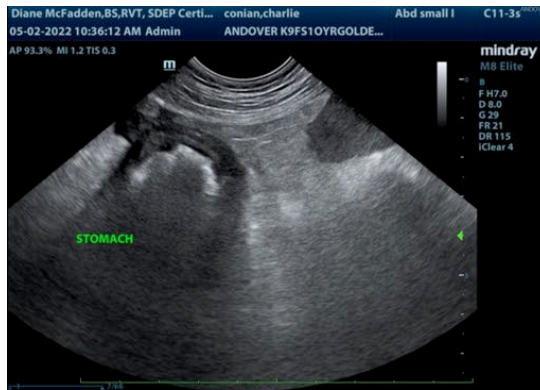
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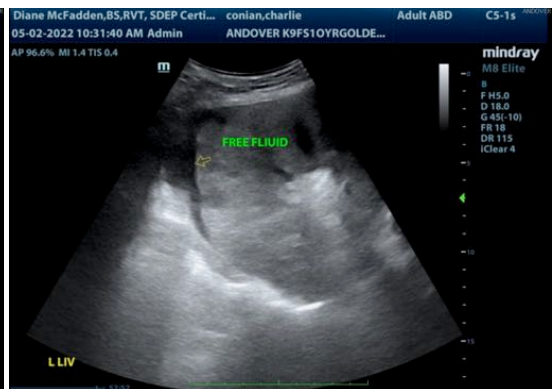
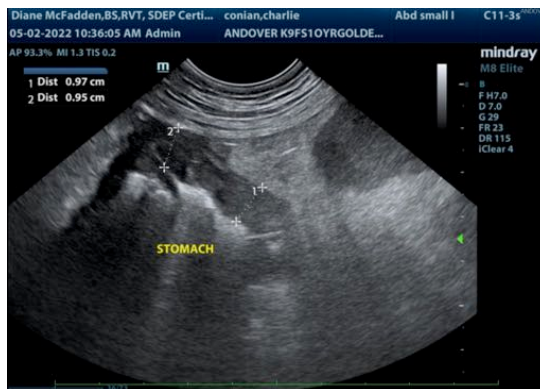
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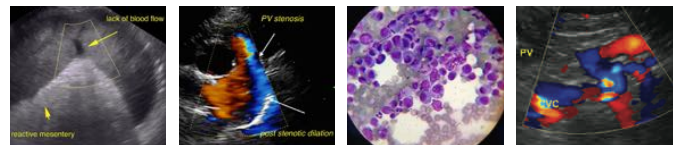


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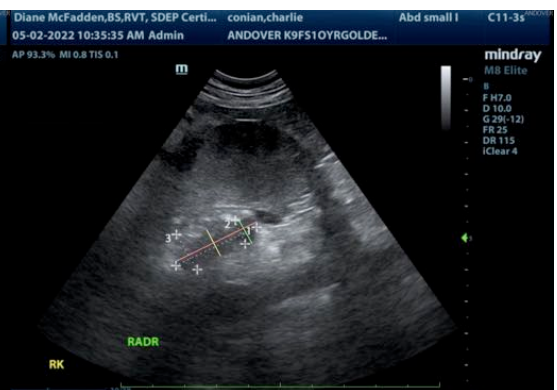
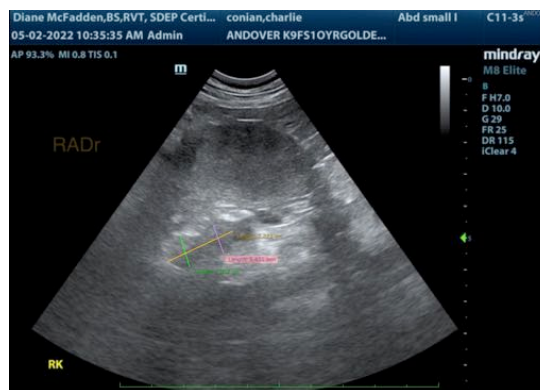
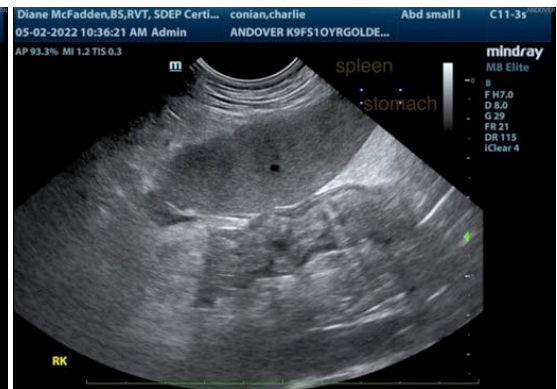
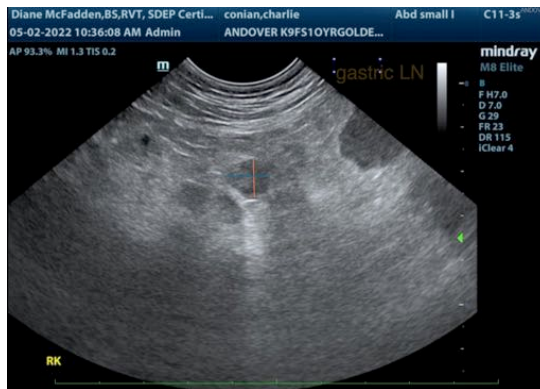
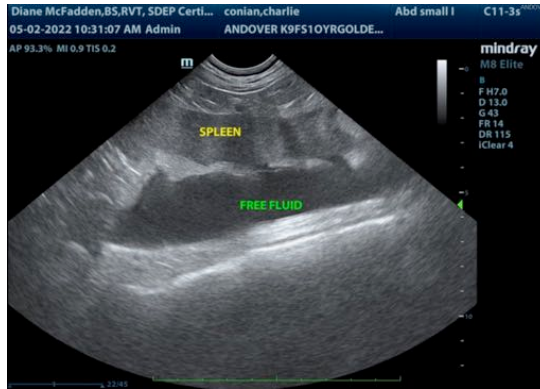
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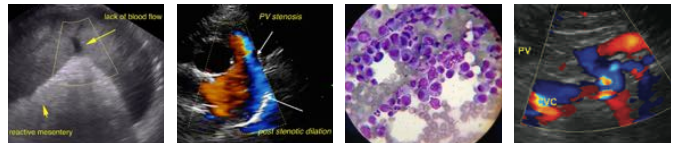
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PATIENT

Charlie Conian

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.

SPECIES

Canine

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.

BREED

Golden Retriever Mix

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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SEX

Spayed Female

AGE

10 years

WEIGHT

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Dr. Vanderbogart

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