



PATIENT

Reggie Berkebile

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Male

AGE

13 Years

WEIGHT

17 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Dr. Meghan Myers

HOSPITAL NAME

Hershire AH

REFERRING VET

Dr. Meghan Myers

INVOICE

36295

DATE

3/18/22

PRESENTING CLINICAL SIGNS

chronic elevation of alpk and alt recent mild non-regenerative anemia and high normal creat early renal disease suspected and pet started on k/d food. cushings less likely due to usg of urine was 1.029. was treated recently for uti presenting complaint from owner was pu/pd
Abnormal PE/Chem/CBC/UA Results: creat 1.5 (.5-1.5) bun: 57 (9-31) alt: 529 (18-121) alpk: 4489 cholesterol: 533 t4 normal u/a: 4+ protein, rare rbc, rare cocci bacteria

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately filled. The wall is smooth and regular. No abnormalities are present with the trigone, proximal urethra, or the prostatic urethra. There is no evidence of sediment, however, a single cystolith is visualized. There are no polyps or a mass.

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

Left kidney: Very mild renomegaly is present (5.5 cm) in addition to hyperechogenicity of the cortex and mild to moderate loss of the normal definition of the corticomedullary junction. Very mild pyelectasia is present without signs of hydroureter. The pelvis measures 1.3 mm, which is not clinically significant. A few cortical cysts are present. Mineralizations of the diverticulae and pelvis are present, some of which shadow. The surrounding mesentery is not hyperechoic. Subjectively, the blood flow appears increased.

Right kidney: Very mild renomegaly (5.6 cm) is present in addition to hyperechogenicity of the cortex and mild to moderate loss of the normal definition of the corticomedullary junction. A nephrolith is visualized at the level of the pelvis measuring 5.2 mm. There is no evidence of an obstruction. The surrounding mesentery is not hyperechoic. Subjectively, the blood flow appears increased.

Adrenal Glands

The left adrenal gland measures 0.65 cm at the cranial pole, 0.75 cm at the caudal pole, and 2.0 cm in length, i.e. adrenomegaly of both poles is present. A nodule is present at its caudal pole. An obvious mass or abnormalities with the gland's echogenicity or echotexture are not identified. The nodule may be due to a benign adenoma or adrenal hyperplasia. There are no signs of metastases or thrombi in the phrenicoabdominal veins or the surrounding vasculature.

The right adrenal gland measures 0.70 cm at the cranial pole, 0.52 cm at the caudal pole, and 2.4 cm in length, i.e. adrenomegaly is present at the cranial pole (for a dog of Reggie's stature). An obvious mass and abnormalities with the echogenicity or echotexture are not identified. The rounded effect may be due to a benign adenoma or hyperplasia. There are no signs of metastases or thrombi in the phrenicoabdominal veins or the surrounding vasculature of either gland.

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. It is hyperechoic to both the liver and renal cortex. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

Hepatomegaly is present, and its borders are smooth, but rounded. It is also diffusely hyperechoic; the liver is isoechoic to the spleen. The latter is a non-specific change, which may be suggestive of a vacuolar hepatopathy, which may occur due to hyperadrenocorticism or stress (chronic illness).



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Cholestasis is also possible. Other differential diagnoses such as hepatitis +/- a secondary bacterial infection, cholangitis are considered less likely.

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The gall bladder wall is within normal limits in thickness and echogenicity. A moderate amount of echogenic material (i.e., sludge) is present. It is free-floating and inspissated, forming nodules. Sludge is adhered circumferentially to the GB wall. A single cholelith is observed within one of the intrahepatic bile ducts; there is no evidence of an obstruction. Signs of cholecystitis are not appreciated, however, cholestasis cannot be excluded.

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Gastrointestinal

The gastric wall and pylorus are normal in thickness. There is no loss of definition of the normal architecture of the layers of the stomach wall. No obvious abnormalities are observed with its peristalsis.

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Male

The small intestinal wall thickness, including the duodenum, is within normal limits and there is no evidence of dilation. The definition of the wall layers is preserved. The colonic wall is not thickened and mural detail is considered normal. There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction.

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Pancreas

Both limbs are heterogeneous with hyperechoic areas dispersed haphazardly throughout the parenchyma. Differential diagnoses include fibrosis due to previous episodes of pancreatitis.

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Other

Lymph nodes: No abnormalities are observed.

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Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

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- A single cystolith is present within the bladder, without signs of an obstruction. The mucosa is smooth and regular, i.e. there are no obvious signs of cystitis.
- The renal changes may be due to glomerulonephritis associated with hyperadrenocorticism. However, pyelonephritis cannot be excluded despite the absence of sonographic signs. Renal blood flow of the kidneys may be mildly increased, which may be suggestive of hypertension. A systemic arterial blood pressure is recommended. The trivial bilateral pyelectasia is attributed to the pu/pd. Age related degenerative changes are also contributing to some of the abnormalities observed with the kidneys.
- The nodules in both adrenal glands may be due to benign adenomas or hyperplasia. However, bilateral adrenomegaly is present, and hyperadrenocorticism must be considered as a cause for Reggie's clinical signs. Further diagnostics for hyperadrenocorticism are recommended.
- Although presence of gall bladder sludge is often clinically insignificant, it occurs commonly in dogs with hyperadrenocorticism. Treatment with ursodeoxycholic acid is not suggested for the moment, however, a re-evaluation of the gall bladder in 2-3 months is highly recommended to ensure further accumulation does not occur or that the sludge does not form into a mucocele.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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A urine culture and sensitivity is recommended to exclude a possible urinary tract infection, despite the absence of signs of cystitis.



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A systemic arterial blood pressure is recommended, as is a SDMA to further evaluate renal function.

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A urine protein/creatinine ratio is suggested if the culture is negative, as proteinuria occurs with hyperadrenocorticism.

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A diet that is low in fat and restricted in phosphorus that meets requirements to decrease the risk of development of cystoliths is required based on Reggie's previous history of pancreatitis and early chronic renal disease. However, if his appetite is suboptimal, a senior diet that is restricted in phosphorus may be fed.

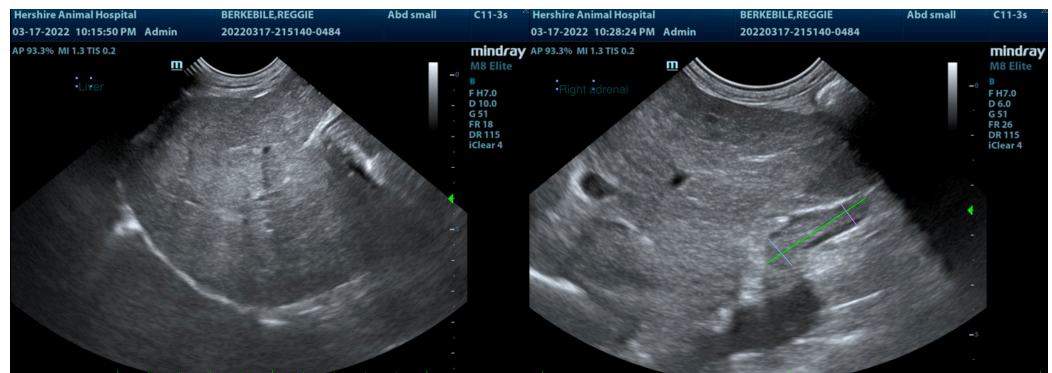
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Cholestasis may be present in addition to an ascending bacterial infection. Although indiscriminate use of antibiotics is not recommended, if there is no improvement in Reggie's clinical signs, one could start treatment with a broad-spectrum antibiotic and reassess liver enzyme activities, including a GGT, in a few weeks.

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Male



AGE

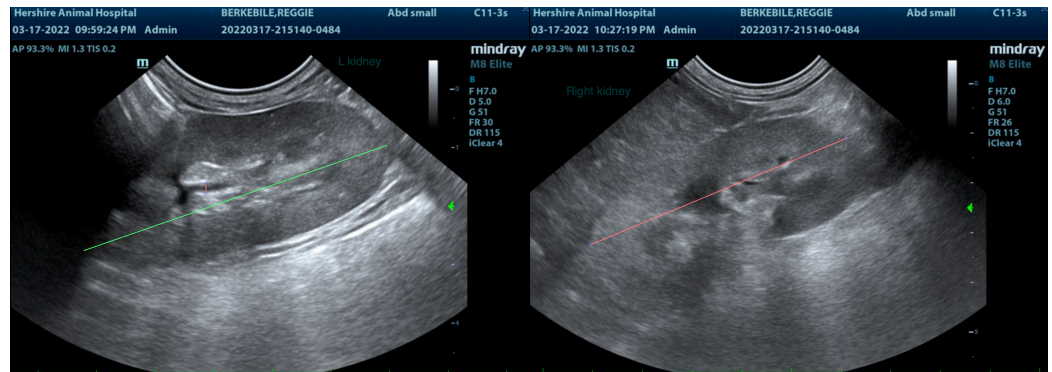
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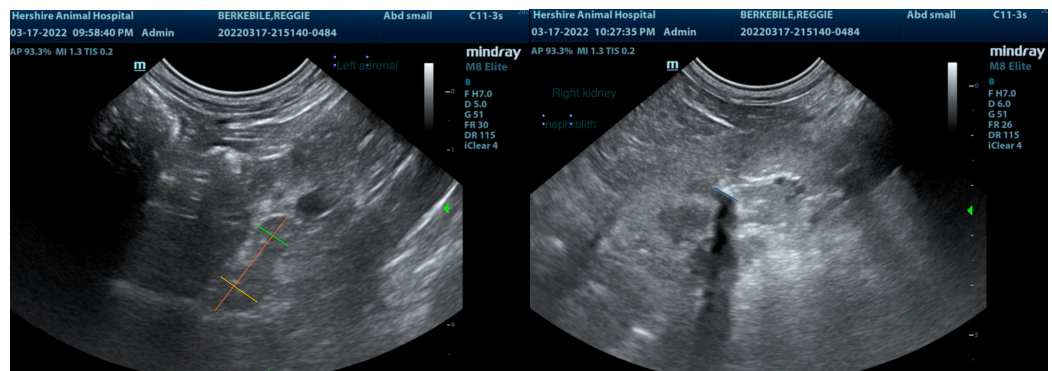


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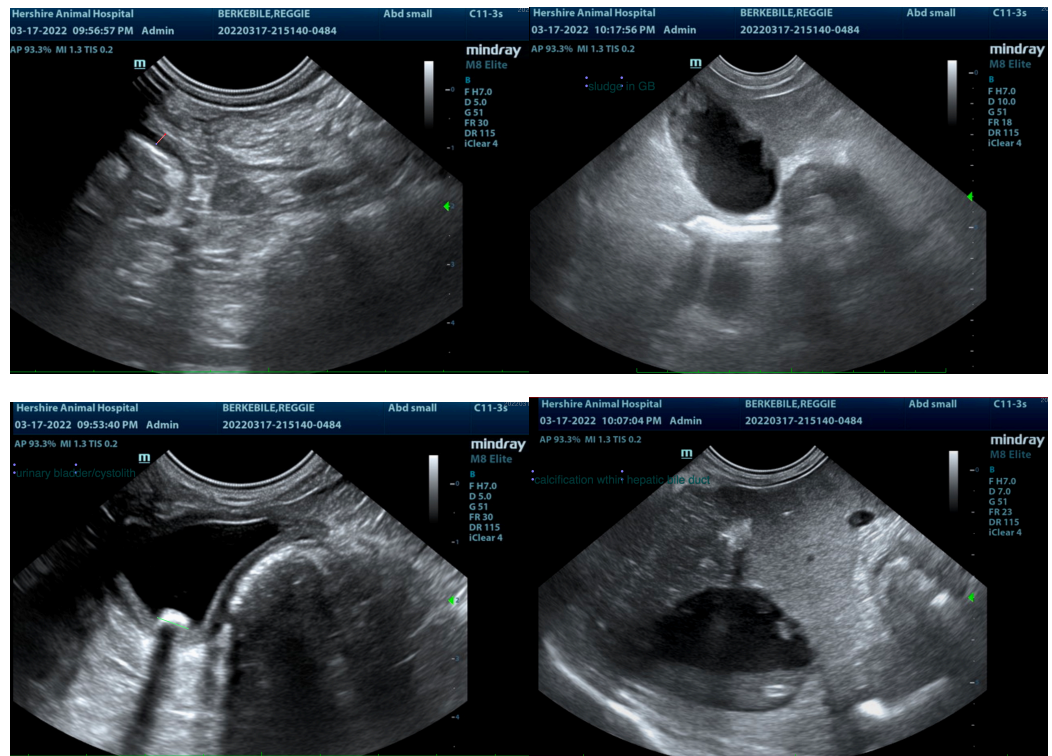
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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