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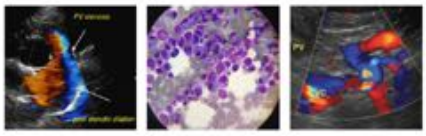

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PATIENT

Chewbacca Brockman

SPECIES

Canine

BREED

Labrador

SEX

Neutered Male

AGE

6 years

WEIGHT

81 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Union Lake VH

INVOICE

31859

DATE

7/20/22

PRESENTING CLINICAL SIGNS

History: GI issues
Abnormal PE/Chem/CBC/UA Results: Slightly elevated SDMA and low urine SG

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

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.

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

Kidneys (36.8 kg)

The **left** kidney measures 6.95 cm, within normal limits. The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. Occasional mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 6.93 cm. The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. Mineralizations of the diverticulae and pelvis are more numerous compared to the left kidney, however, there are no signs of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.58 cm at the cranial pole, 0.61 cm at the caudal pole. 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 0.70 cm. both poles are not well visualized due to the gas in the surrounding GI tract. No obvious abnormalities are noted with the gland's echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

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.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The walls of the portal veins are hyperechoic, causing them to appear more prominent than usual. The latter causes the

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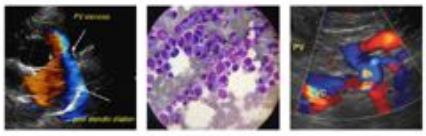

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liver to appear diffusely heterogeneous. It is within normal limits in echogenicity. Focal lesions are not observed. No abnormalities are observed with the larger hepatic vessels.

The gallbladder (GB) is mildly dilated (consistent with a fasted individual). There is no evidence of echogenic material within the GB or edema surrounding it. The GB wall is within normal limits in thickness and echogenicity. 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.

Gastrointestinal

A large amount of gas is present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

Duodenum: Wall thickness is mildly increased at 0.63 cm, however, the definition of the wall layers is preserved. A moderate amount of gas, fluid and ingesta are present.

Jejunum: Wall thickness is also mildly increased 0.52 cm, 0.53 cm. The definition of the wall layers is preserved, however, subjectively, very mild fogging of the mucosa is present. Abnormally dilated loops of bowel are not observed.

The colonic wall is thickened (0.22 cm, 0.26 cm, 0.30 cm) and mural detail is considered normal. A large amount of gas is present.

Pancreas

No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Other

Lymph nodes No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Kidneys**: Very mild mineralization is present, without obvious signs of pyelonephritis, glomerulonephritis or interstitial nephritis. Signs of dysplasia are not noted. Pyelonephritis is unlikely, but cannot be excluded despite the absence of classical sonographic signs.

- **Gastrointestinal (GI) tract**: Overt abnormalities are not observed, however, multiple segments of the GI tract are very mildly thickened and very subtle signs of inflammation are noted. A review of Chewbacca's history of vomiting, defecation (consistency and frequency of bowel movements, etc.) signs of pica, gastroesophageal reflux disease, etc., is suggested to exclude an underlying chronic enteropathy (e.g. steroid responsive type inflammatory bowel disease, food responsive vs. food intolerance, fibre responsive diarrhea, etc.).

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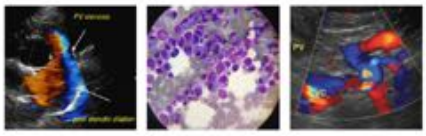

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- **Liver**: the reason for the prominent walls of the portal veins is likely clinically insignificant as liver enzyme activities and parameters on the serum biochemical profile that represent liver function are within the normal reference range.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Further diagnostics to determine the clinical significance of the elevated SDMA and decreased urine specific gravity include the following:

Repeat urine specific gravity on a first morning urine sample, if not already performed. Three consecutive days may be evaluated to obtain an average.

Urine culture and sensitivity to exclude pyelonephritis

Urine protein creatinine ratio, if the culture is negative. Perform if USG less than 1.020, even if dipstick is negative for protein (false negatives can occur).

If decreased renal function confirmed, avoid NSAIDs as a form of analgesia, or use as adjunctive therapy (see below) at the minimum effective dose, after discussing risks/benefits with clients.

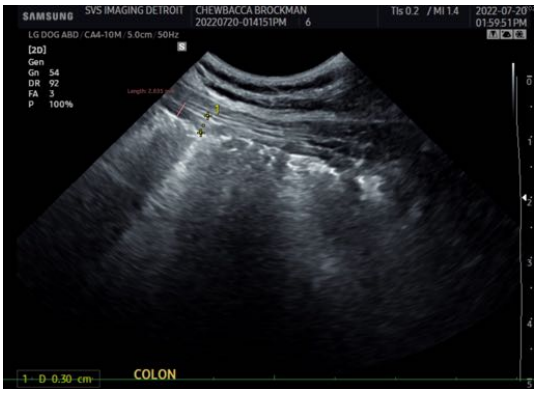
Consider Cartrophen, gabapentin, diet, nutraceuticals, laser therapy, acupuncture, opioids (methadone or codeine, depending on severity of pain).

Unable to determine cause of decreased renal function unless aware of a previous insult or acute injury.

Deworm with fenbendazole, even if receiving monthly heartworm prevention.

Addition of soluble fibre (psyllium) to current diet.

A diet trial may be considered, for example, a veterinary based hydrolyzed or novel protein diet, to help determine if food intolerance or other chronic enteropathy is causing the subtle sonographic changes.



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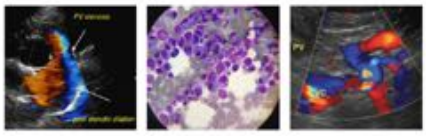

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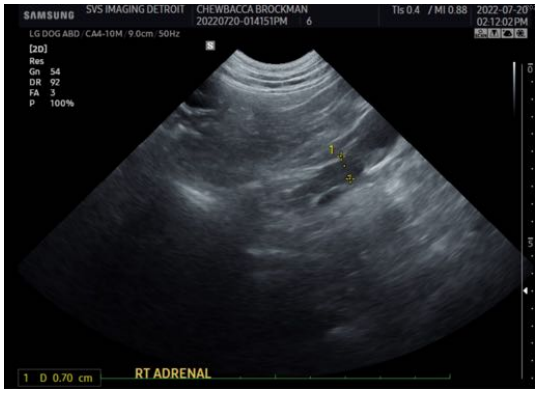

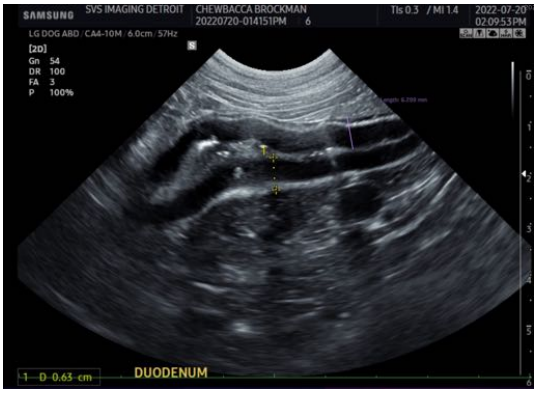

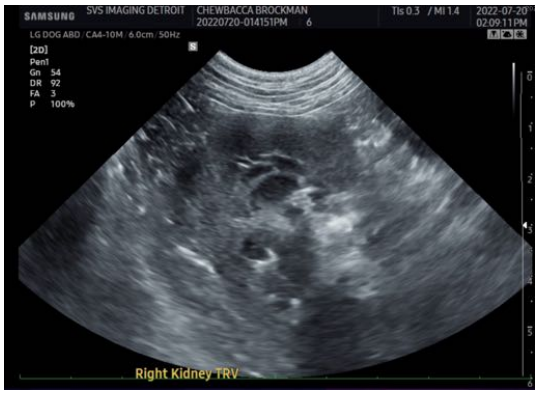

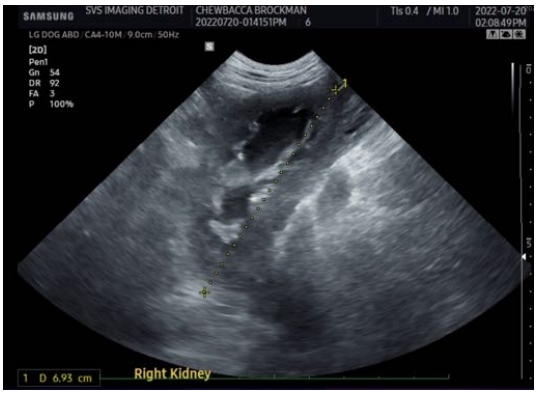

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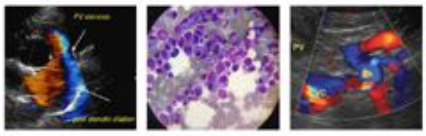

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Lisa.Carioto@sonopath.com