PATIENT

Missy Jones

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

Spayed female

AGE

13 years

WEIGHT

11.4 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Ginny Dodd DVM, DABVP (CFP

HOSPITAL NAME

CityVet Marvin

REFERRING VET

Dr. Welsh

INVOICE

70869

DATE

1/22/26

PRESENTING CLINICAL SIGNS

- H/O mild liver enzyme elevations
- sedation with Torb/Dexdom
- PE: liver extends caudal to ribs, halitosis, dental plaque and tartar CHEM- AST 71 (was 15); ALT 284 (was 118); AALKP 225 (was 131), GGT 10 (was 1), BUN 52 (was 31); creat 0.9; SDMA 13.5; cholesterol 368, trigl 145

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone was normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex. Moderate mineralization was noted on the kidneys. Microcystic cortical changes were noted on the kidneys. The left kidney measured 4.0 cm with slight pyelectasia. The right kidney measured 3.64 cm.

Adrenal Glands

The **right adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.36 x 0.33 cm at the cranial pole and 0.29 cm at the caudal pole.

The **left adrenal gland** revealed nodular, irregular and expansive measuring 1.42 x 0.92 cm at the cranial pole and 0.65 cm at the caudal pole. The nodule at the cranial pole of the left adrenal gland measured 1.0 cm.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted. The spleen measured 1.09 cm.

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Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder was mildly over distended with suspended and dependent debris, yet not to the level of emerging mucocele, yet sludge appears to be mildly excessive. No adjunctive inflammation was noted.

Gastrointestinal

There was some residual chyme and gas was noted in the **stomach**, yet not pathological. This is consistent with post prandial presentation. Transit of chyme into the small intestine was normal. Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

- Irregular, enlarged, nodular left adrenal gland. Carcinoma versus pheochromocytoma, adenoma possible.
- Non-specific inflammatory hepatopathy.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Surgical removal of the left adrenal gland could be considered especially if any paraneoplastic manifestations are present such as hypertension or Cushingoid state. If no action is taken upon the left adrenal gland, I recommend imaging in a month to assess for any progression. If the patient appears Cushingoid the following work-up would be indicated.

Serial blood pressure measurements are recommended in this patient. If hypertension is an issue metanephrine level is recommended. If the patient appears Cushingoid and urine specific gravity is less than 1.020 then work-up for adrenal dependent Cushing's is indicated. Recheck is recommended in 2-3 weeks to assess for any progression of the adrenal gland.

The hepatic clinical sonographic presentation is most consistent with Reactive Hepatopathy which is the most common cause of liver enzyme elevation in dogs and cats. The presumption is that gut and other organ antigen stimuli may be causing a low-grade immune response through portal system with which the liver is reacting to causing low-grade enzyme elevations. US-guided FNA could be performed to assess if low grade lymphoplasmacytic inflammation is present that would support this theory. If FNA

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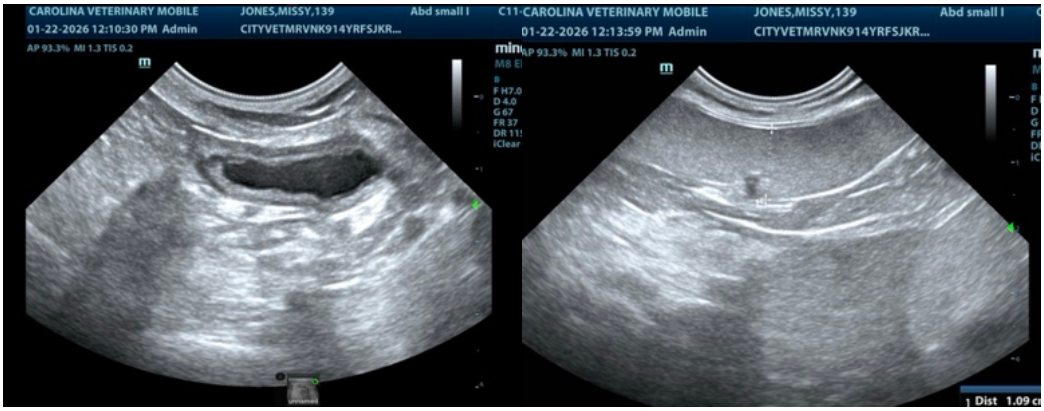
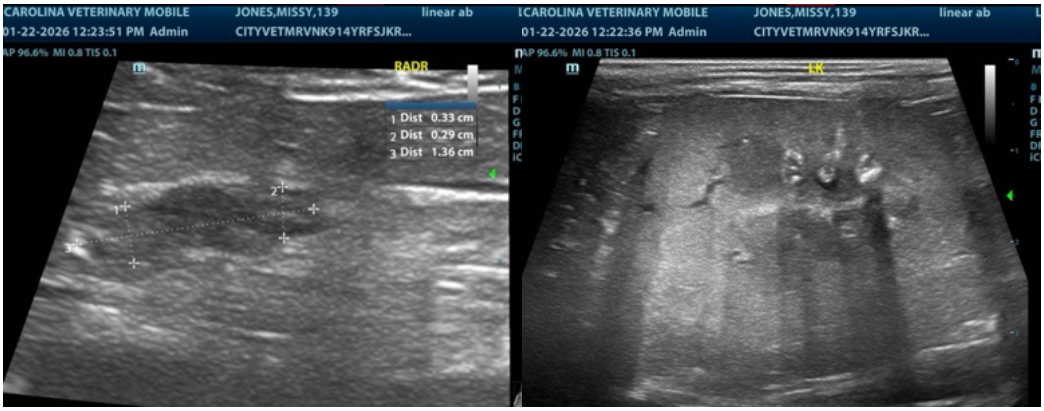
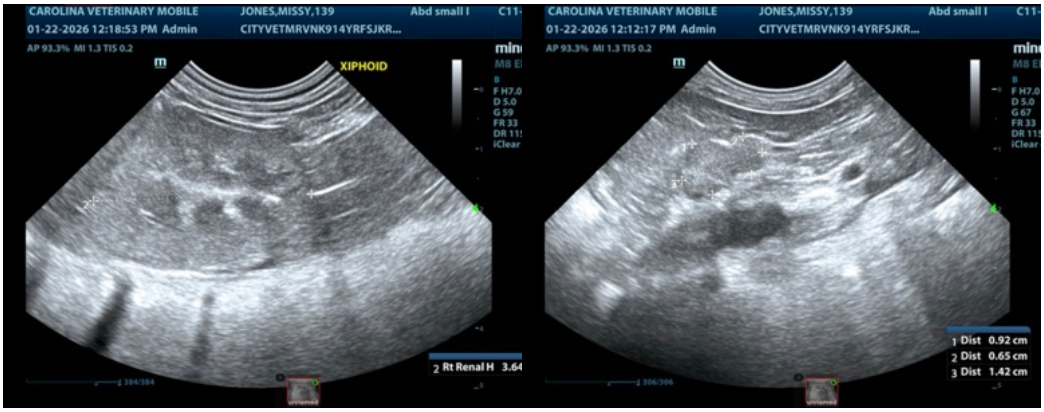
is performed, please ask the cytologist to emphasize the primary inflammatory cell type. Empirical treatment measures to address this issue can include diet change to hydrolyzed diet, probiotics, deworming, nutraceuticals (SAMe, Actigall…), dental exam and cleaning, and potentially antibiotics such as Clavamox. Metronidazole and Tylosin have traditionally been utilized for this purpose but new studies show that both these antibiotics can disrupt the normal intestinal bacterial flora (intestinal dysbiosis) for weeks and up to 4-6 months. Therefore, Metronidazole and Tylosin should be utilized as a last resort if other efforts have not been effective and sonographic organ appearance remains benign.







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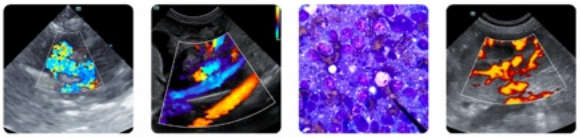

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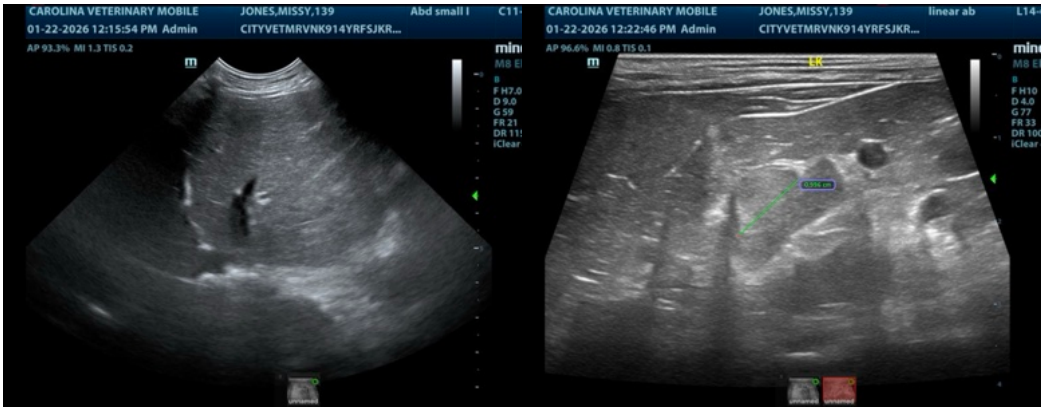

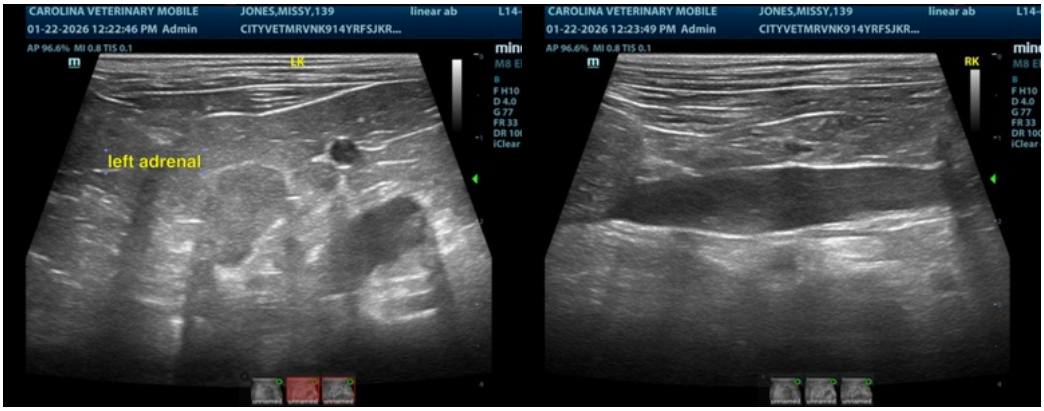

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

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