



PATIENT

Rocco Rodriguez

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

13 Years

WEIGHT

18.4 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Ferrer, DVM

HOSPITAL NAME

Paseos VC

REFERRING VET

Dra. Michelle Biello

INVOICE

21110

DATE

2/13/23

PRESENTING CLINICAL SIGNS

History: Presented for an abdominal ultrasound and an echocardiogram. The owner has noted increased PU/PD. The abdominal ultrasound to evaluate elevated increased liver enzymes. Cough noted upon agitation Responded favorably to previous medications. Patient with a history of heart murmur grade III/VI , an echo was performed a few years ago, at that time medication therapy was not indicated for murmur.

Abnormal PE/Chem/CBC/UA Results: CBC: wnl -Chemsitry: elevation in ALKP, ALP 1,728 (23 - 212 U/L) Total Protein 8.4 (5.2 - 8.2 g/dL) Globulin 4.6 (2.5 - 4.5 g/dL) possible underlying cushings dz - Radiographs: Marked hepatic enlargement -HW test: negative

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of mineral or infarcts observed. The left kidney measures 4.87 cm. The right kidney measures 5.27 cm. Mild pyelectasia is noted in the left kidney, measuring 0.29 in the transverse view and mild pyelectasia in the right kidney measures 0.21 cm in the transverse view.

Adrenal Glands

Left adrenal gland is normal in size (2.0 cm long x 0.53 cm at cranial pole and 0.9 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal. A hyperechoic nodule is noted in the caudal pole of the left adrenal gland. Nodule does not disrupt normal shape and/or architecture.

Right adrenal gland is normal in size (1.87 cm long x 0.35 cm at cranial pole and 0.45 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion. The left appears subjectively more affected than the right.

Gallbladder is moderately distended with anechoic bile as well as moderate suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.



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Gastrointestinal

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The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

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The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

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Pancreas

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

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Free Abdomen

There is no evidence of peritoneal effusion. The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

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ULTRASONOGRAPHIC FINDINGS

Primary Findings

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- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia. The left appears more severely heterogenous than the right.
- Moderate gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

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- Hyperechoic adrenal nodule in the caudal pole of the left adrenal gland – Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.

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Secondary Findings



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- Age-related kidney changes with mild bilateral pyelectasia. Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.

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- Reactive mesenteric lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.
-

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the discrepancy between the left and right side of the liver, as is reportedly already pending, a fine needle aspirate of the liver is recommended. Pending those results, given the liver, gallbladder and adrenal gland changes, combined with the reported PU/PD, further evaluation for possible hyperadrenocorticism could be considered, beginning with an LDDST.

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Additionally, if not recently evaluated, a blood pressure is recommended, and if not recently evaluated, urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

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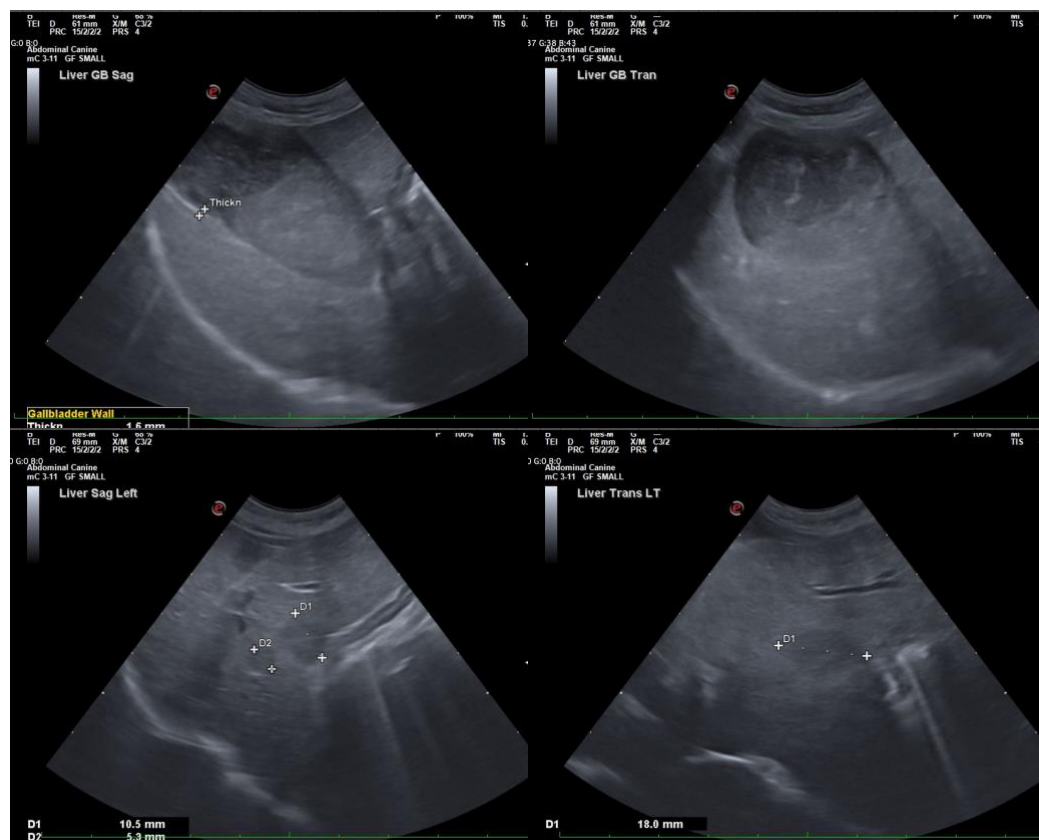
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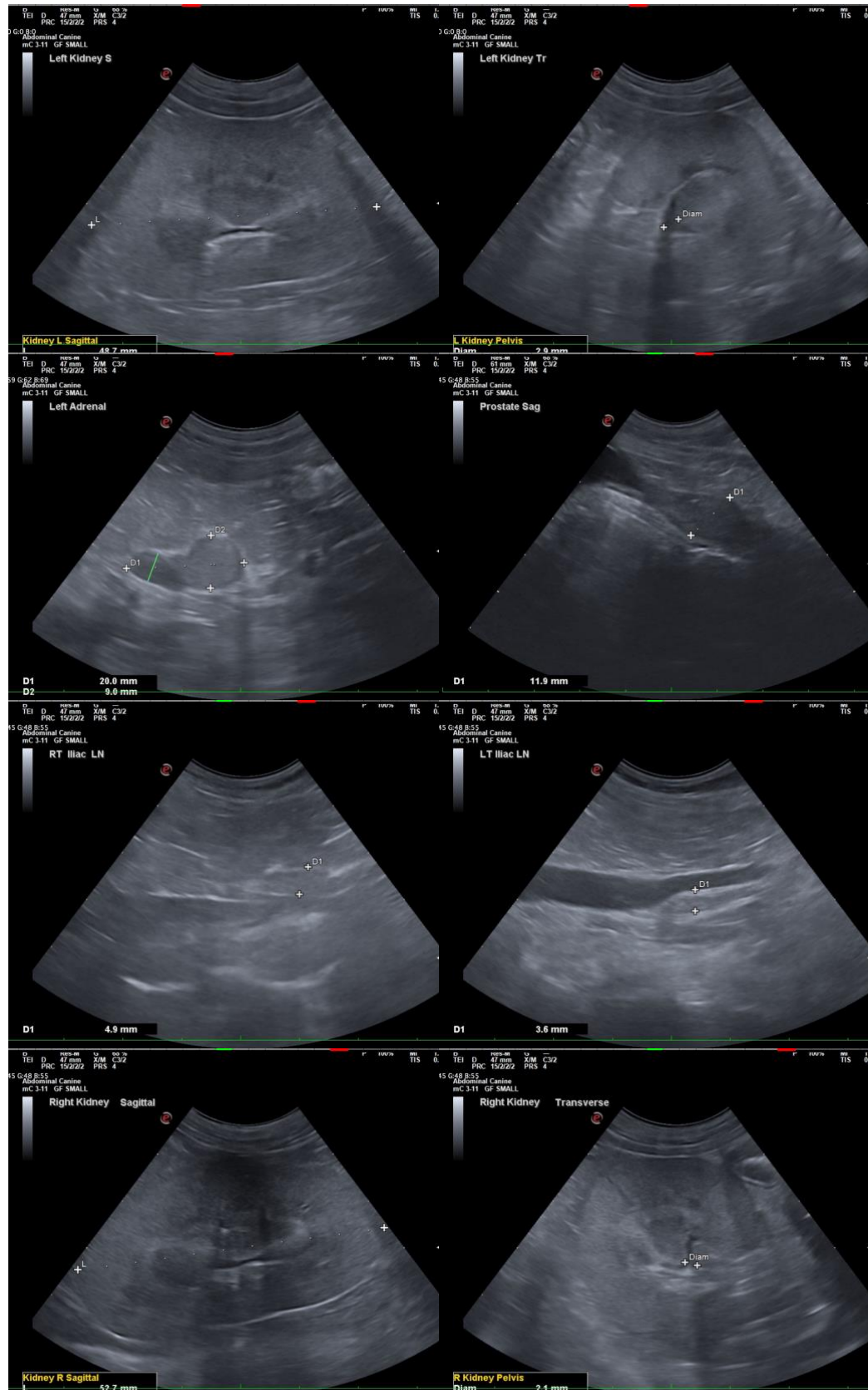
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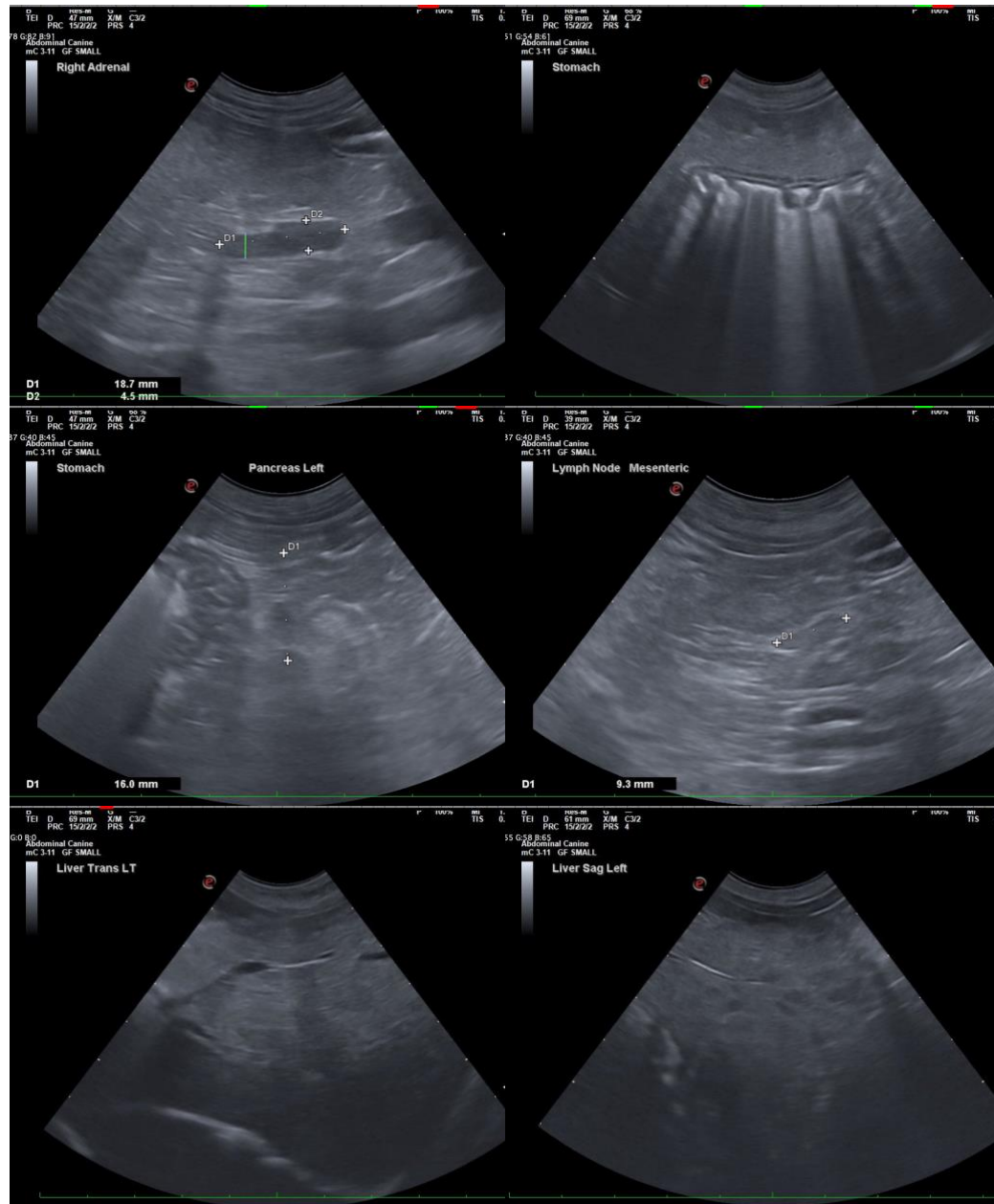
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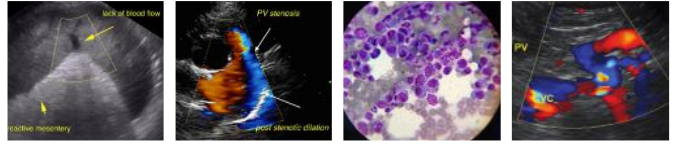


The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM DACVIM

Beth.Johnson@SonoPath.com



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