



**PATIENT PRESENTING CLINICAL SIGNS**

Josh Davis  
losing weight, not eating. R/o renal disease, neoplasia  
Abnormal PE/Chem/CBC/UA Results: WBC 3.7

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Canine  
**Urinary System**

**BREED**  
Boxer/Pit X  
Urinary bladder is mildly to moderately distended with anechoic contents. Apical urinary bladder wall is diffusely thick (0.53 cm thick). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

**SEX**  
Neutered Male  
The prostate is symmetrically mildly enlarged for a dog neutered as a puppy. It measures 1.5 cm thick. It maintains smooth margins that are well differentiated from surrounding tissue, and a normal bilobed shape. Parenchyma is mildly heterogeneous with scattered hyperechoic foci present. No mineral or cysts are noted.

**AGE**  
13 Years  
The right kidney is normal in size (7.35 cm) and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. Small cortical cysts are noted diffusely with one larger 1.5" round anechoic structure in the cranial pole that has an echogenic density in the center of anechoic structure. This structure does not disrupt normal architecture and/or contour. The medulla and cortices are uniform in texture with some mild increased echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**WEIGHT**  
40 Pounds  
The left kidney is normal in size (7.49 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

The adrenal glands are largely normal in size, shape and contour. Some parenchymal heterogeneity is present without concerning capsular distortion. These changes are likely normal for this age but should be monitored if there is any suspicion of adrenal disease. An approximate 0.5 cm diameter, hypoechoic nodule is present in the caudal pole, that results in capsular expansion, but without evident capsular escape or vascular invasion. The left adrenal gland measured 3.29 cm long x 0.67 cm at the cranial pole and 0.55 cm at the caudal pole. The right adrenal gland measured 2.42 cm long x 1.44 cm at the cranial pole and 0.70 cm at the caudal pole.

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

ACC Flanders

**Spleen**

Spleen is subjectively enlarged in size with rounded margins but intact capsule. Parenchyma is homogeneously coarse/mottled in echotexture and normal to hypoechoic in echogenicity. No focal nodules or masses are observed. Splenic vasculature appears normal.

**REFERRING VET**

Dr. Hallihan

**Liver**

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The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

**DATE**  
6/28/22  
The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.



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**Gastrointestinal**

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**Free Abdomen**

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**ULTRASONOGRAPHIC FINDINGS**

- Coarse splenomegaly – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.
- Bilateral age related changes to the adrenal glands with a focal hypoechoic nodule in the left adrenal gland, causing a mild capsular bulge. This is most likely a benign change secondary to hyperplasia, or an adrenal adenoma. An adenocarcinoma or pheochromocytoma are considered possible, but less likely. However, the adrenal glands should be closely monitored for changes.
- Mild heterogeneous prostatomegaly – rule out normal patient variant, especially if this patient was neutered later in life versus normal age related remodeling changes versus chronic prostatitis. Infiltrative neoplasia is considered possible, but less likely.
- Chronic Cystitis – Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.
- Age related kidney change – This finding is expected/consistent with age-related mild degenerative disease and should be interpreted clinically in combination with laboratory changes.
- Cortical cysts in the right kidney – Includes one cyst that contains echogenic contents, suggestive of a complicated cyst most likely. However, abscess, hematoma, even infiltrative neoplasia cannot be ruled out, while neoplasia is considered much less likely.



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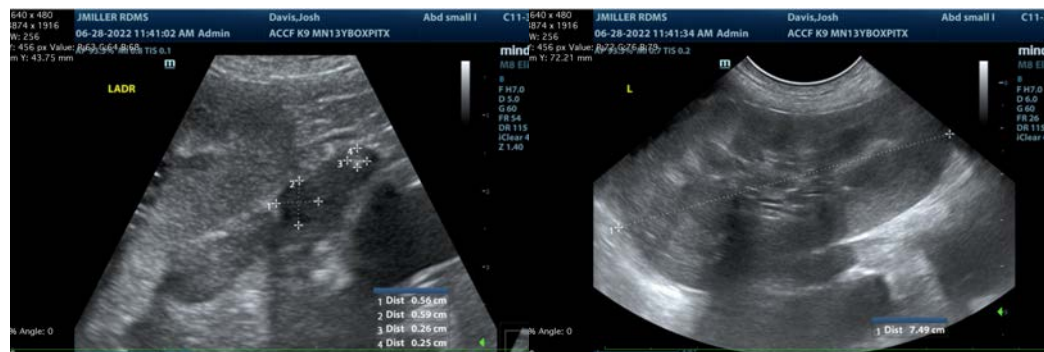
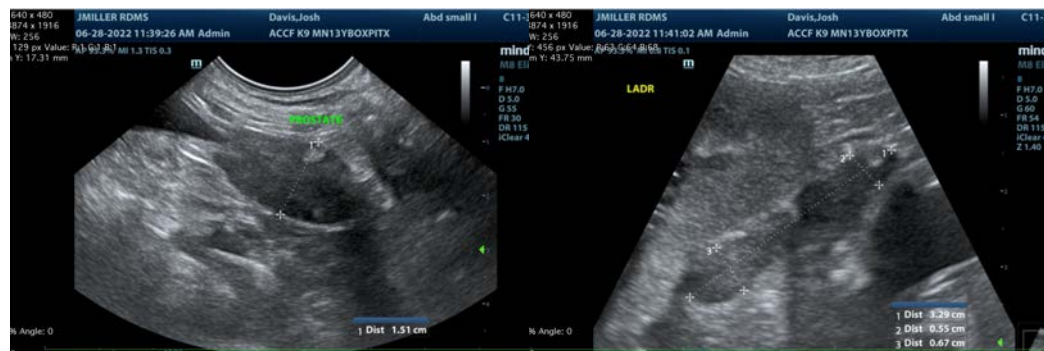
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.
- Fine needle aspirate of the spleen is recommended if patient's coagulation status is appropriate.
- Given the urinary bladder changes combined with possible prostatitis, Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.
- Blood pressure is recommended if not recently assessed, given the adrenal changes.
- If clinical signs of hyperadrenocorticism are present, then testing for hyperadrenocorticism would be warranted. However, with the lack of clinical signs, monitoring of the adrenal nodule is recommended again in 4-6 weeks.
- Recheck of the large right complex kidney cyst is recommended at the same time, as is monitoring of the prostate.





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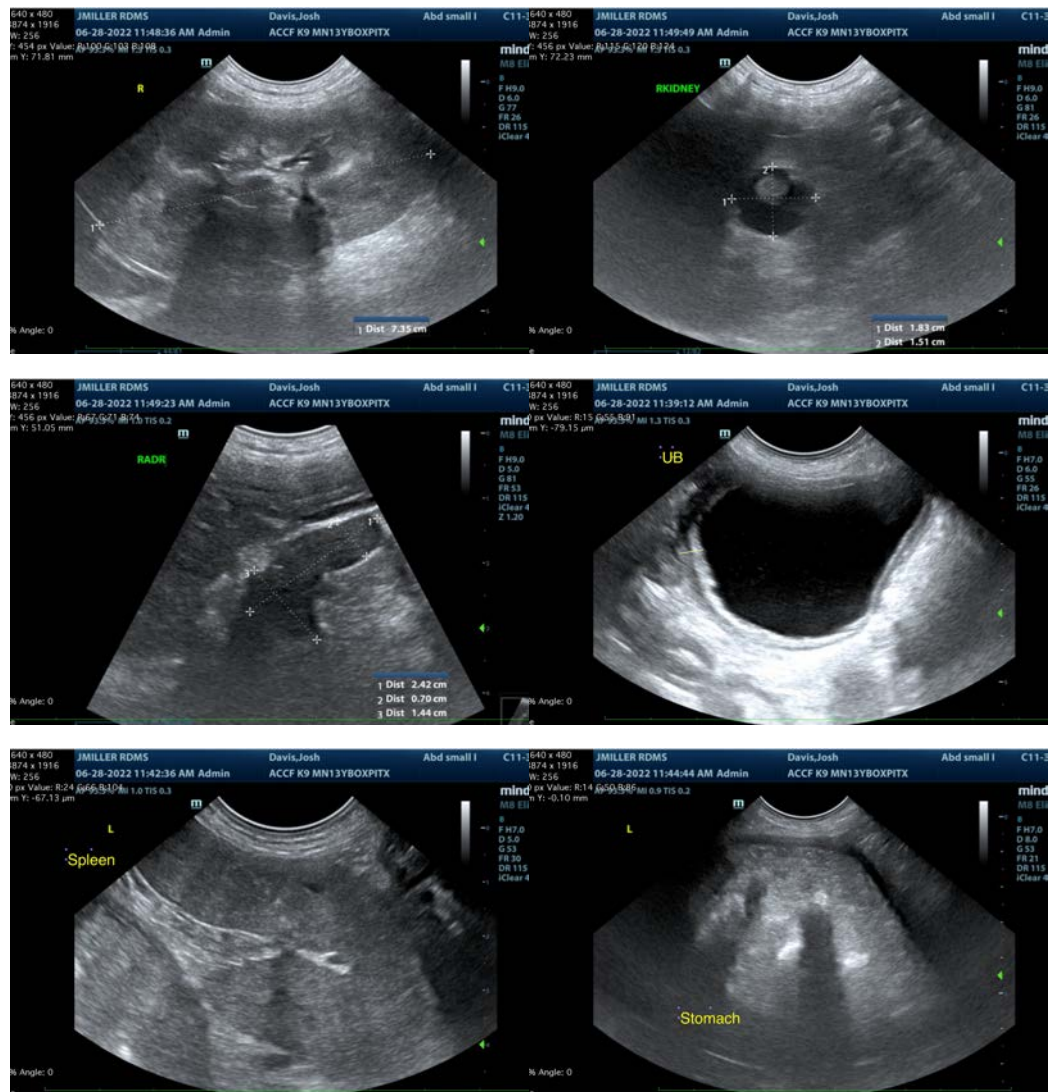
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
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