



PATIENT PRESENTING CLINICAL SIGNS

PATIENT Bailey Davison
SPECIES Canine
 Patient presents today for concerns of pu/pd for last 10 days. This morning in particular, she was very lethargic, seemed a bit disoriented (was not coming to owners when called, etc), and had no interest in breakfast. She only drank a little. She was trembling, shaking, and drooling. No known ingestion of toxin or foreign material. No vomiting or diarrhea. Patient has a history of a MCT removal in 2019 and a soft tissue sarcoma removal in 2018. No current medications. PE was overall unremarkable, older age changes, tense on abdominal palpation but non-painful, could not get a good feel of organs.

BREED Boxer
 Abnormal PE/Chem/CBC/UA Results: USG of 1.018, stress leukogram, nucleated RBC production, and HCT of 41% with MCV being microcytic and MCHC being normochromic. Chemistry panel and electrolytes are WNL. Patient has dropped 7# since 2019.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

SEX *Urinary System*

SEX Spayed Female
 The urinary bladder is moderately 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.

AGE 12 Years
 The right kidney is normal in size (5.5 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

WEIGHT 50 Pounds
 The left kidney is normal in size (5.5 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

INTERPRETED BY

Beth Johnson, DVM
 DACVIM

Adrenal Glands

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. The left adrenal gland measures 0.75 cm at the cranial pole and 0.65 cm at the caudal pole. The right adrenal gland measures 0.69 cm at the caudal pole. The cranial pole is not well visualized in these images.

IMAGING PERFORMED BY

Dr. Meghan Myers

HOSPITAL NAME *Spleen*

Hershire AH

The 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.

REFERRING VET *Liver*

Dr. Meghan Myers

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.

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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 visible stomach wall is normal in thickness 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 free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Age related adrenal changes
- Non-obstructive dystrophic mineralization bilaterally in the kidneys

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's reported polyuria/polydipsia and isosthenuria without an obvious ultrasonographic cause, combined with possible neurologic signs, a blood pressure is recommended if not recently evaluated.

Differentials are vast for polyuria/polydipsia and include but are not limited to primary polyuria caused by chronic kidney disease, pyelonephritis, liver disease, diabetes mellitus, hypercalcemia, hyperadrenocorticism, hypoadrenocorticism, E.coli infections, central diabetes insipidus, primary nephrogenic diabetes insipidus, etc., or primary polydipsia caused by psychogenic polydipsia, fever, pain, or central nervous system disease.

Given this patient's relatively unremarkable workup so far, a first AM urine specific gravity could be performed to see if urine concentration is possible, as most animals drink less overnight. If urine is concentrated, then primary polydipsia is the more likely differential, and given this patient's other clinical signs, further evaluation for possible underlying neurologic disease is recommended.

If urine is still not concentrated, then next diagnostic steps could include a urine culture, low-dose Dexamethasone suppression test, T4, bile acids, Leptospirosis testing, and/or an empirical course of antibiotics. If a diagnosis is still not obtained, a more advanced workup including possibly water deprivation test, Desmopressin trial, etc., potentially advanced imaging of the brain, may be necessary.



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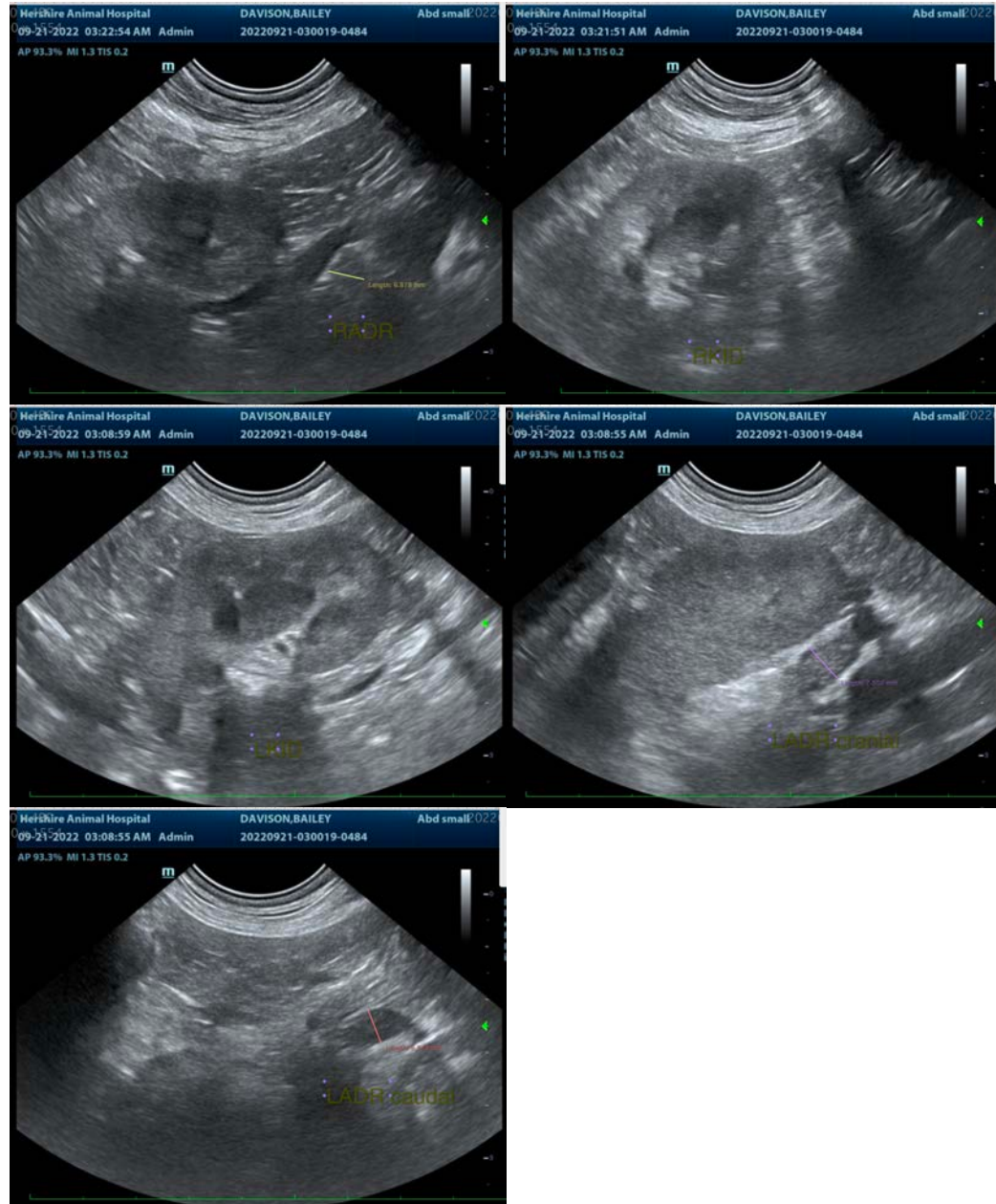
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Beth.Johnson@sonopath.com