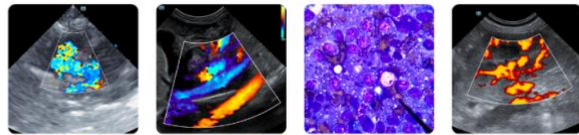


PATIENT

Panda Warren

SPECIES

Canine

BREED

Flat Coated Retriever

SEX

Spayed Female

AGE

14 Years 7 Months

WEIGHT

28.3 kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

IMAGING PERFORMED BY

Dr. Jill Rankin

HOSPITAL NAME

Royal Loop Vet Clinic

REFERRING VET

Dr. Jodi

INVOICE

13873

DATE

02/19/26

PRESENTING CLINICAL SIGNS

- Patient presenting for evaluation of urinary incontinence, intermittent diarrhea, and a picky appetite, with key diagnostic findings including isosthenuria, mild hypercalcemia, and a mildly elevated alkaline phosphatase.
- The primary presenting complaint is urinary incontinence, which the owner described as clear liquid, suggestive of dilute urine. A urinalysis confirmed significant dilution with a urine specific gravity of 1.013 (isosthenuria), leading to a clinical suspicion of PU and PD (PU/PD). The patient's SDMA level was noted to be good.
- In addition to the urinary signs, the patient has a history of on-and-off diarrhea. A fiber supplement has been administered with variable results. The patient also exhibits a picky appetite, requiring food to be top-dressed to encourage eating.
- Recent blood work was largely unremarkable, with a normal CBC, platelet count, and cholesterol. The notable abnormalities included a mildly elevated alkaline phosphatase (ALP) at 135 and mild hypercalcemia. A T4 level had not been performed at the time of this consultation.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic change were noted.

Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. Mild medullary mineral was present. The left kidney measured 6.0 cm in length. The right kidney measured 5.5 cm in length.

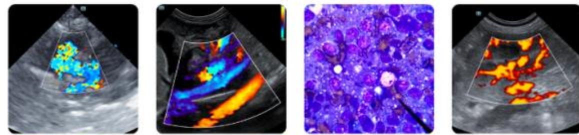
Adrenal Glands

The left adrenal gland was borderline enlarged in size with normal contour and a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.72 cm width at the caudal pole.

The right adrenal gland was borderline enlarged in size with normal contour and a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.79 cm width at the caudal pole. A mid to caudal elongated mildly hypoechoic nonmineralized nodule was present in the right adrenal gland. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 1.4 cm x 0.36 cm.

Spleen

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Focal to intermittent primarily perihilar nodules were present with an example measuring 0.50 cm in diameter. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory or neoplastic changes were not noted. The



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echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

Liver & Gallbladder

The liver presented subjective mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. Multiple variably sized nonhomogenous hyperechoic noncapsule deforming hepatic nodules were present with an example measuring 2.5 cm to 3.5 cm.

The gallbladder was non distended in size with moderate gravity dependent mineralized nonorganized biliary sludge. No evidence of overt gallbladder or peripheral gallbladder inflammation. The common bile duct was not visualized.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild lumen gas and retained anechoic fluid.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with semi formed to possible soft fecal matter and lumen gas in lumen.

Pancreas

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

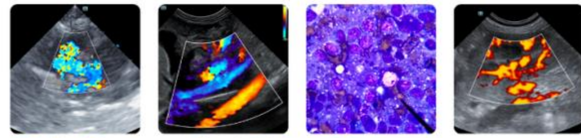
Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Normal urinary bladder and visible proximal urethra.
- Chronic renal changes exhibiting mild medullary mineral.
- Borderline bilateral adrenomegaly with right adrenal nodule- hyperplasia, adenoma, right adrenal tumor not excluded yet thought less likely at this stage.
- Multifocal hyperechoic hepatic nodules- nodular hyperplasia or lipogranulomas favored with mild potential for emerging neoplastic nodules i.e. carcinoma.
- Hyperechoic splenic nodules- most consistent with benign criteria i.e. myelolipomas.
- Sonographically normal gastrointestinal tract/colon with minor retained gastric fluid and semi formed to soft fecal matter in colon.
- Nonobstructive mineralized gallbladder debris (non-mucocele).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS



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Adrenal workup with LDDST is warranted if clinical signs are consistent with Cushing's syndrome. Monitoring of systemic BP for hypertension is recommended. Assuming normal clotting status, accessible hepatic nodule FNA cytology could be considered for further clarification. A GI panel to include PLI, TLI, cobalamin and folate is recommended. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered. Sonographic monitoring of the gallbladder if progressive cholestasis as well as liver nodules and right adrenal nodule for evidence of progression is indicated.

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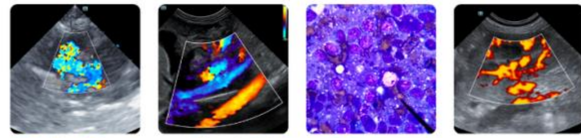

Clinical Sonography & Telecytology

Educational Teleconsultation Services™

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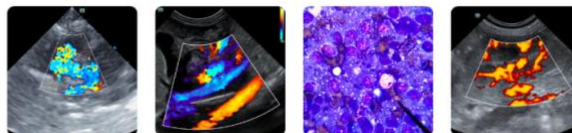

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com