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Clinical Sonography & Telecytology
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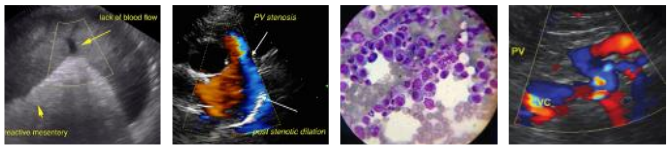

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Kenzie Robinson

SPECIES

Canine

BREED

Boston Terrier

SEX

FS

AGE

12yr

WEIGHT

5.1kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Patti Mayfield DVM

HOSPITAL NAME

Tumalo Animal Hospital

REFERRING VET

Dr. Westbrook

INVOICE

13234ag

DATE

03/20/2023

PRESENTING CLINICAL SIGNS

Patient presented for wellness and immunizations in February, 2023. Patient has long history of intermittent regurgitation/GI clinical signs that appear to be well-controlled with diet and use of medications (listed below). Potential increase in thirst (PD) reported. Routine blood work was performed and demonstrated moderately elevated LE's, and the stimulus for the AUS. MEDS: -- Dermaquin PO 12hrs -- Sucralfate PO 12hrs -- Metoclopramide PO 12hrs -- Metamucil PO 12hrs -- OTC acid reflux PO 12hrs -- Vitamin B injection (every 3 weeks) Patient received butorphanol IV to facilitate AUS

Abnormal PE/Chem/CBC/UA Results: PE: Unremarkable (geriatric changes, small SQ mass on right pelvic limb, lenticular sclerosis) 2/7/2023: CBC: -- PLTS: 883,000/uL (143,000-448,000) CHEM: -- BUN: 36 mg/dL (9-31) -- K: 5.5 mmol/L (4-5.4) -- Na/K ratio: 27 (28-37) -- TP: 5.4 g/dL (5.5-7.5) -- ALB: 2.6 g/dL (2.7-3.9) -- ALT: 127 U/L (18-121) -- ALP: 162 U/L (5-160) -- GGT: 48 U/L (0-13) -- CK: 311 U/L (0-200) UA (cysto): -- yellow, clear, USG: 1.022, pH: 7.5 -- 3+ proteinuria -- Inactive sediment T4: wnl at 2.2 ug/dL Add-on UPC: 2.3 mg/dL (elevated, >0.5 = proteinuric)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 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 changes were noted.

Normal size and margination were 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. No evidence of pelvic dilation was present. Pinpoint areas of minor dystrophic medullary mineral were present. The left kidney measured 3.1 cm in length. The right kidney measured 3.6 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

Borderline prominent size was present in the left adrenal gland. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 1.5 cm length and 0.62 cm width in the caudal pole.

The right adrenal gland was mildly prominent in size with subtle non-homogenous parenchyma and minor discrete capsule asymmetry. No evidence of parenchymal escape or vascular invasion. The right adrenal gland measured 0.75 cm width at the caudal pole and 1.2 cm length.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.

Liver/Gallbladder

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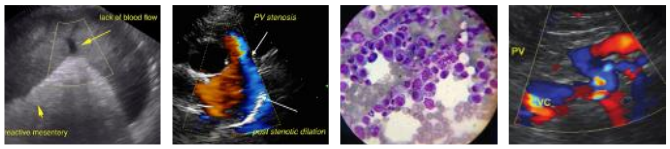

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The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. A solitary non-homogenous hyperechoic nodule was present in the deep right parenchyma measuring ~ 1.1 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild echogenic non-organized debris. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

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 apparent formed feces 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 omental masses, overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Non-specific mild chronic frenal changes with pinpoint focal medullary mineral.
- Low-grade hepatopathy with non-specific subjectively benign intraparenchymal nodule.
- Mild gallbladder debris (non-mucocele)
- Bilateral borderline prominent adrenal glands, more prominent right adrenal gland-nonspecific, adenomatous changes, minor benign hyperplasia, emerging neoplastic criteria thought less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although the USG (1.0-2) as well as hepatic presentation is not overtly suggestive of significant polydipsia or hepatopathy, a full adrenal workup could be considered if strong clinical suspicion for Cushing's syndrome. A screening BP is advised to assess for evidence of hypertension which may allude to emerging adrenal neoplastic criteria i.e. pheochromocytoma. PLE therapy may be indicated if persistent/progressive UPC. Sonographic monitoring of the right adrenal gland with initial recheck in 4 weeks would be ideal. Hepatosupportive medications such as Denamarin and Ursodiol may prove beneficial.

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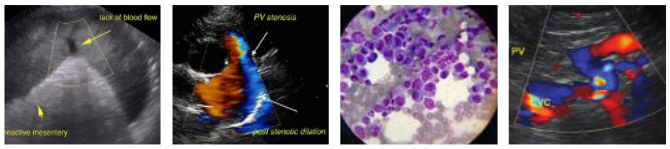

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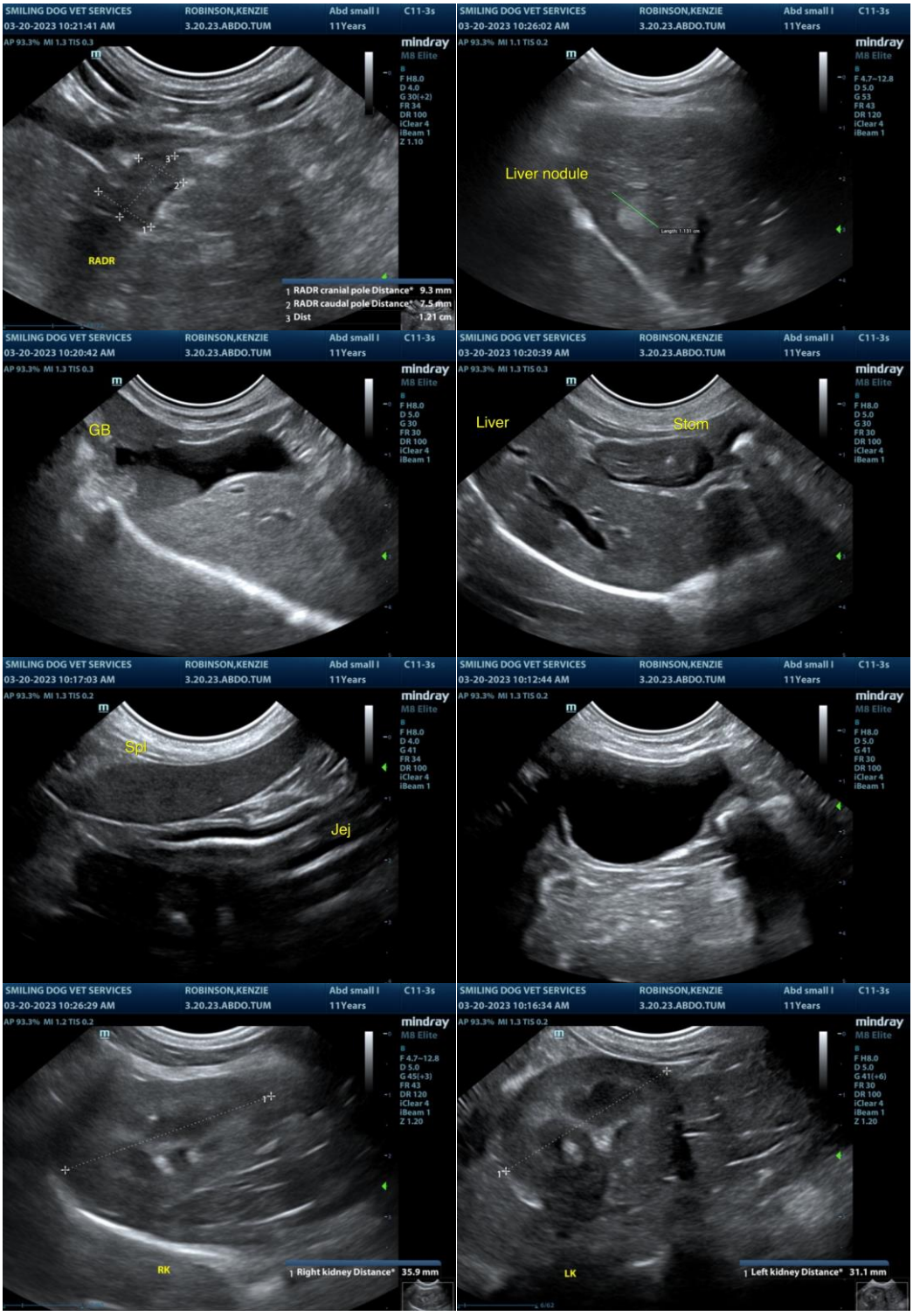

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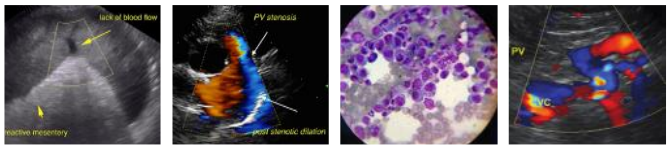

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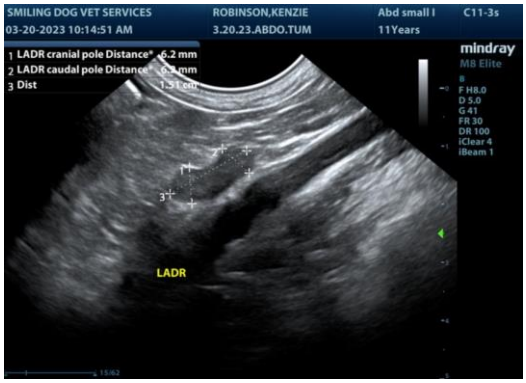

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com