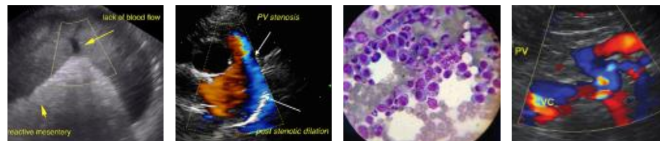
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Oreo Penalba

SPECIES

Canine

BREED

Cockapoo

SEX

MN

AGE

12

WEIGHT

11.2kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Donna Markland DVM

HOSPITAL NAME

Island Mobile Paws Veterinary Services

REFERRING VET

Central Island Veterinary Emergency Hospital

INVOICE

12196ag

DATE

11/21/2022

PRESENTING CLINICAL SIGNS

Presented to emerg for vomiting and diarrhea on November 20th. Unremarkable PE. Renal values are too high to read and K was also elevated on admission. A UTI was diagnosed (rods) with culture pending. Potassium has now normalized. Oreo is on IV fluids, cerenia, IV antibiotics, and methadone. Oreo is not vaccinated for lepto. He is fed a raw diet.

Abnormal PE/Chem/CBC/UA Results: 11/20/22: SDMA=14 (0-14) Creat and urea= too high to read at 2x dilution K=7.5 (3/5-5.8) (normal sodium) 11/21/22: K=4.8

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with mild nondependent nonparticulate sediment. The sediment may indicate cellular debris / protein, crystalline debris, lipid, or mucus. 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 mild asymmetrical 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 to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Mild left kidney pyelectasia and a small nondisruptive caudal cortical cyst was observed. Bilateral pinpoint to focal medullary mineral was present. No evidence of pelvic dilation was present. The left kidney measured 5.0 cm in length. The right kidney measured 5.4 cm in length

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of pathology.

Adrenal Glands

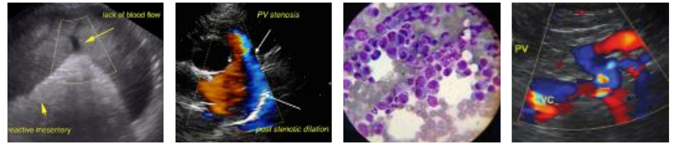
The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.43 cm width at the caudal pole and 0.43 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.55 cm width at the caudal pole and 0.51 cm width at the cranial pole.

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

The liver presented 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. The gallbladder was non-distended in size with primarily anechoic luminal content and moderate dependent to nondependent mildly congealed yet nonorganized variably hyperechoic debris. No evidence of



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gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented mild wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with primarily anechoic fluid was present.

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 pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum, likely consistent with age related changes and considered incidental. No signs of active inflammation or neoplasia.

Free Abdomen

No omental masses or peritoneal effusion was present.

A solitary enlarged right cranial abdominal mesenteric lymph node was present adjacent to the caudate liver lobe and portal vasculature likely consistent with hepatic or pancreaticoduodenal lymph node. This node was homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was evident. An example of lymph node size was 2.0 cm in diameter.

ULTRASONOGRAPHIC FINDINGS

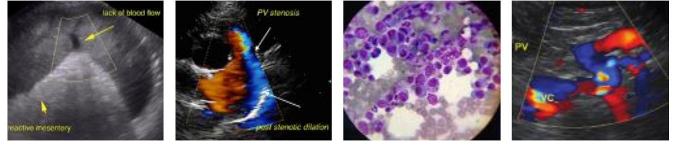
- Mild urinary bladder sediment
- Bilateral chronic renal changes exhibiting mild medullary mineral, mild left kidney pyelectasia and left kidney cortical cyst
- Mild hepatosplenic parenchymal remodeling-benign
- Moderate gallbladder debris-possible emerging gallbladder mucocele
- Mild gastroenteritis pattern-potentially resolving
- Focal non-specific likely benign cranial abdominal mesenteric lymphadenopathy-possible focal lymphoid hyperplasia or reactive lymphadenitis secondary to GI inflammation

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Sonographically the bilateral kidney are suggestive nonspecific chronic nephropathy or renal disease with mild left kidney pyelectasia owing to IVF, pelvic scarring or left kidney chronic renal changes. Potential for mild left kidney pyelonephritis is considered less likely. The bilateral kidneys did not appear to be end stage. The possibility of acute on chronic renal insult i.e. infectious disease/leptospirosis or toxin cannot be definitively excluded.

A leptospirosis titer/PCR may be considered if clinically indicated or if potential exposure/endemic to the area. Correlation with pending urine C/S is recommended. Prognosis is likely dependent on renal response to supportive care.

As needed GI supportive care is recommended.
As needed gastrointestinal supportive care with hydrolyzed or renal diet trial is recommended.



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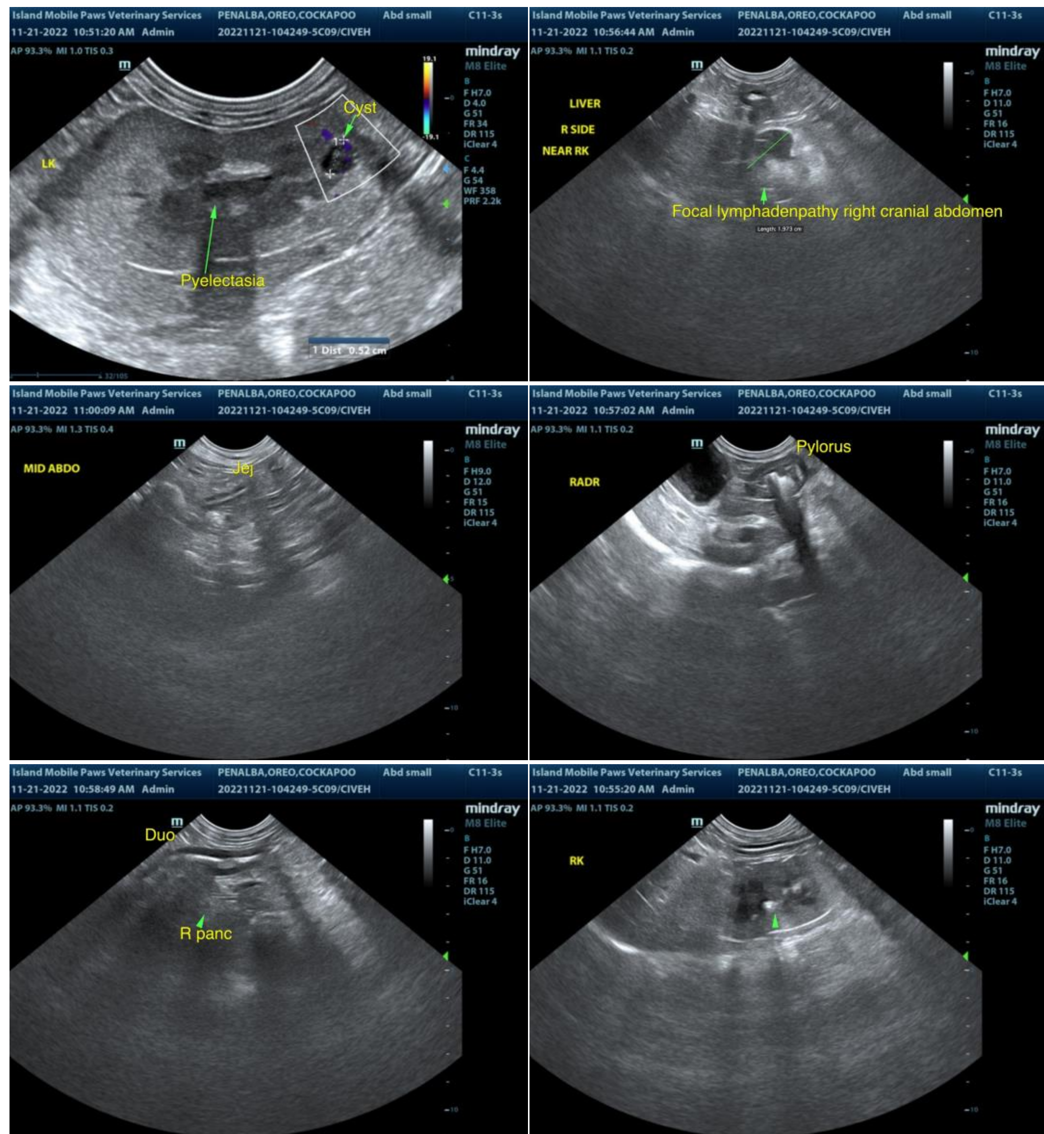

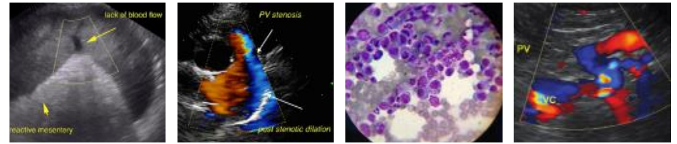

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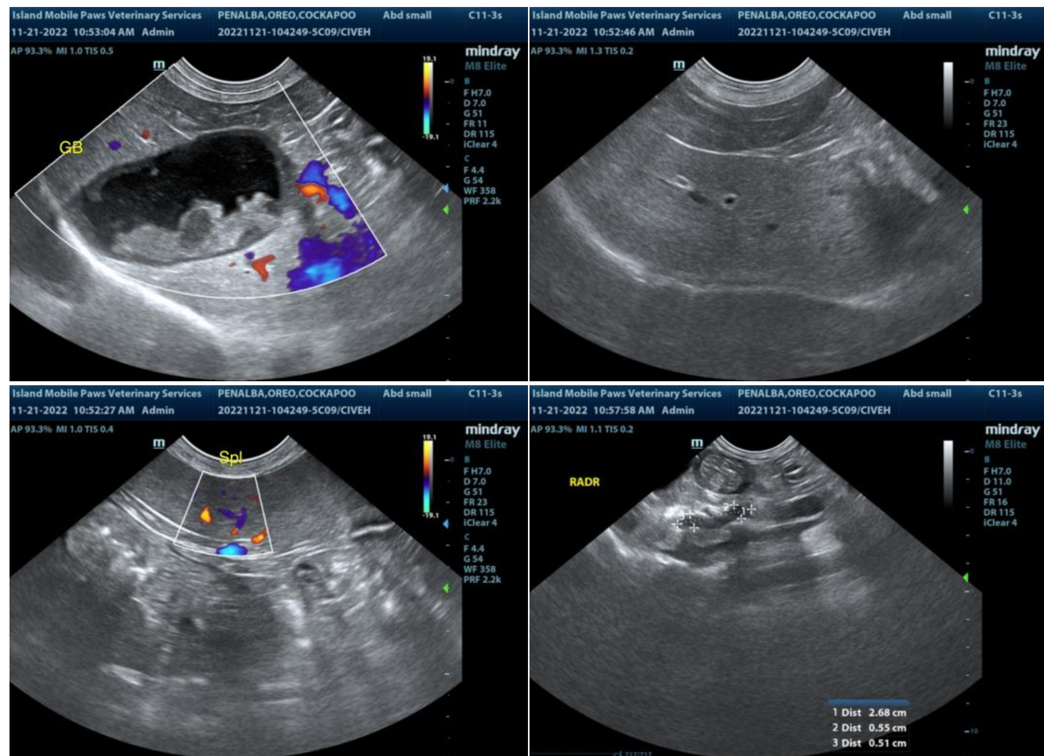

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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