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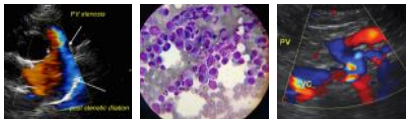

SonoPath
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DATE
1/12/22

PATIENT
Pearl Miller

SPECIES
Canine

BREED
West Highland Terrier

SEX
Spayed Female

AGE
1/24/11

WEIGHT
15.8 Lbs.

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

HOSPITAL NAME
Jacksonville VC

REFERRING VET
Dr. Thai

INVOICE
13398

PRESENTING CLINICAL SIGNS

History: Decreased interest in food recently (still eating some). Coughing acute (not in contact with the other dogs) on PE- decreased 6% BW and muscle wasted topside mild-mod; chronic dark salivary staining paws; chronic otitis externa AD; no murmur/clear lungs/cough on tracheal palpation

Current Medications: doxycycline 50 mg BID, no improvement after 4 days.
Lab Results: low albumin 2.3 (2.7-4.4). BUN 27. Creat 0.9. HCT 45%. Bile Acid 2 sample test WNL. U/A: USG 1.034; protein 4+; blood 2+, pending recheck u/a, urine Culture and sensitivity, and urine P:C ratio.
Radiographs: thoracic rads to be done day of U/S.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The left kidney presented normal size (4.58 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney presented normal size (4.94 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal size (0.51 cm at cranial pole) (0.50 cm at caudal pole) (1.65 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.50 cm at cranial pole) (0.51 cm at caudal pole) (2.04 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is normal in size (1.32 cm in width at the level of the hilus) with a normal capsular contour. The parenchyma is subtly mottled in appearance. No focal lesions are observed. Splenic vasculature is normal.

Liver

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed.

The gall bladder is distended. The wall is normal in thickness. A large amount of aggregated echogenic debris/sludge is observed within the lumen, some of which is partially dependent and some of which is suspended. The cystic and common bile ducts are normal.

Gastrointestinal

The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall is normal to mildly thickened (up to 0.59 cm) with a normal layering pattern. There is evidence of mucosal speckling in some segments. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

Pancreas

The right limb of the pancreas is prominent in size with normal curvilinear peripheral contours. The parenchyma is slightly hypoechoic relative to the surrounding omental fat and mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is visible but not overtly dilated (0.25 cm in diameter). The mesentery effacing the serosal surface is slightly hyperechoic.

Free Abdomen

Trace free fluid is observed. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Bilateral nephropathy. Given the patient's history, a protein-losing nephropathy is suspected. This would need to be confirmed with an elevated UPC. Most protein-losing nephropathies are idiopathic. However, they are occasional secondary to infectious/inflammatory or neoplastic diseases.
- The small intestinal wall changes could be consistent with an inflammatory process (i.e., inflammatory bowel disease or enteritis). Neoplasia is possible but considered unlikely.
- The gallbladder changes could be consistent with cholestasis, early mucocele formation or secondary to fasting.
- The trace ascites may be secondary to low oncotic pressure, increased hydrostatic pressure, increased vascular permeability or some combination thereof.

Secondary Findings

- The splenic parenchymal changes could be consistent with extramedullary hematopoiesis, lymphoid hyperplasia or less likely, emerging neoplasia.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

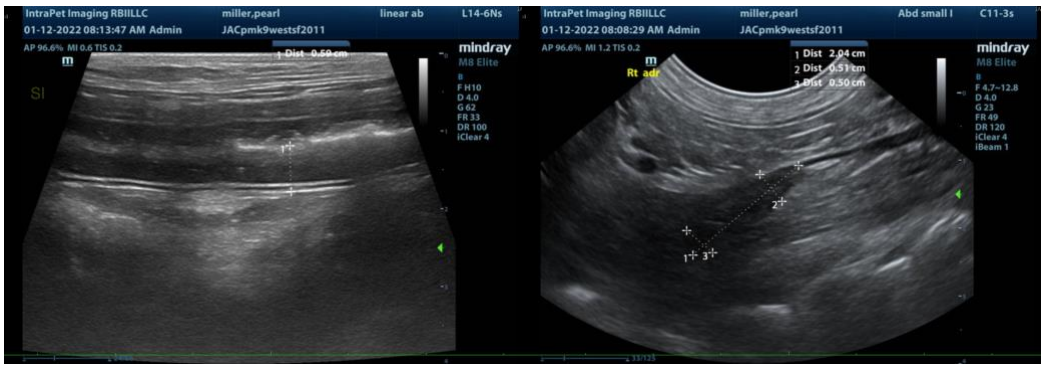
- Given the likelihood of a protein-losing nephropathy, a baseline blood pressure measurement is recommended. If a PLN is confirmed, consider the following protocol:

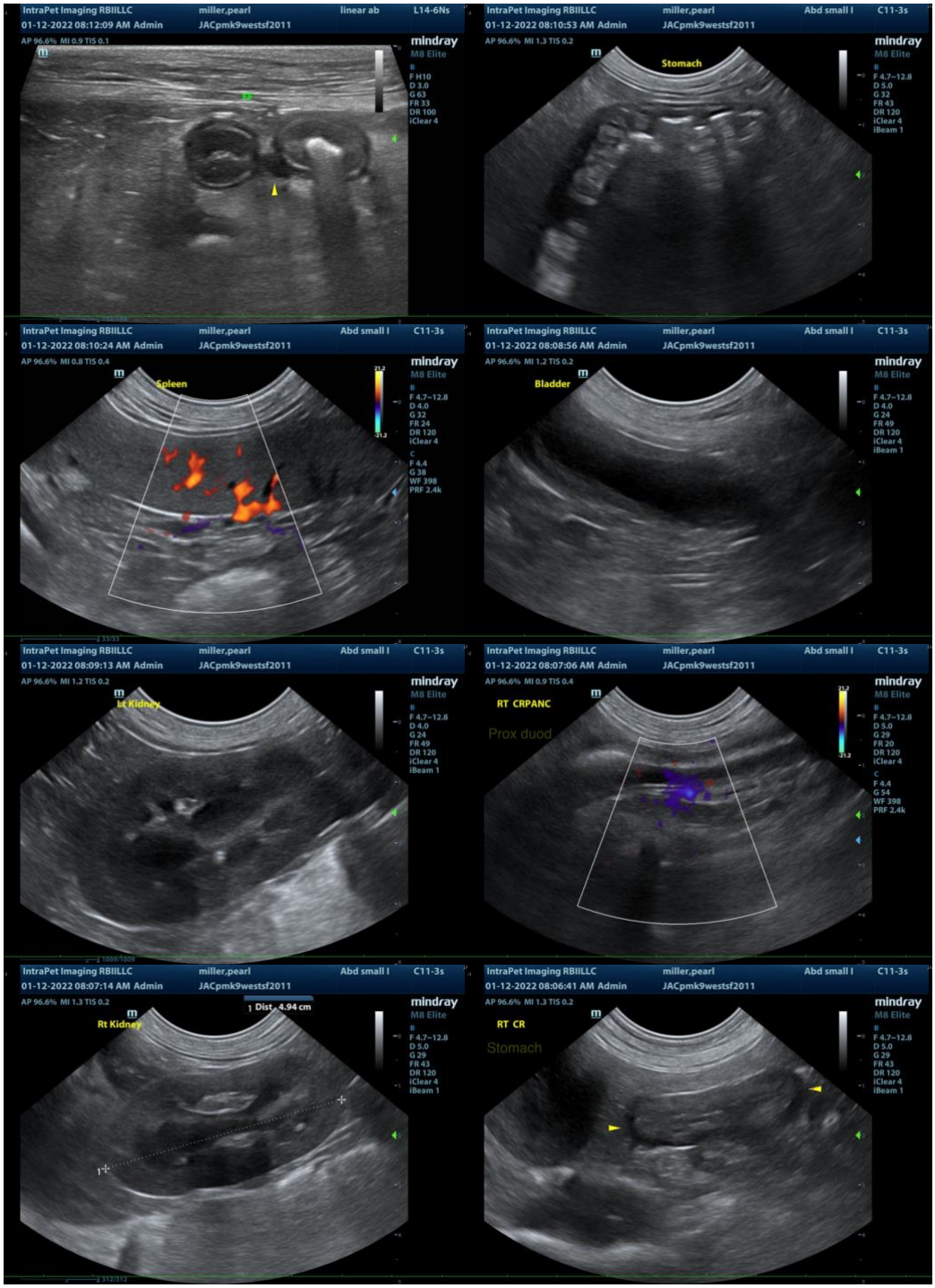
1. Angiotensin II receptor blocker (e.g., telmisartan)
2. Antithrombotic (e.g., clopidogrel at 2.5 mg/kg PO q 24 hours)
3. Omega-3 fatty acids (65 mg/kg of DHA and EPA combined daily)
4. Prescription renal diet
5. Baseline blood pressure measurement with serial monitoring thereafter
6. Routine monitoring of UPC and bloodwork (CBC, chemistry panel) to assess for progressive disease.

- Due to the possibility of a concurrent protein-losing enteropathy, consider the following:

1. Fecal evaluation for ova and Giardia
2. Malabsorption panel, including serum cobalamin, folate, TLI and PLI +/- GI biopsies
3. Given the recent onset of coughing, three-view thoracic radiographs are recommended.

- Regarding the gallbladder changes, consider a repeat ultrasound in 2-3 weeks, preferably 2 hours post small meal. If changes are similar to the current scan, consider initiation of ursodiol.

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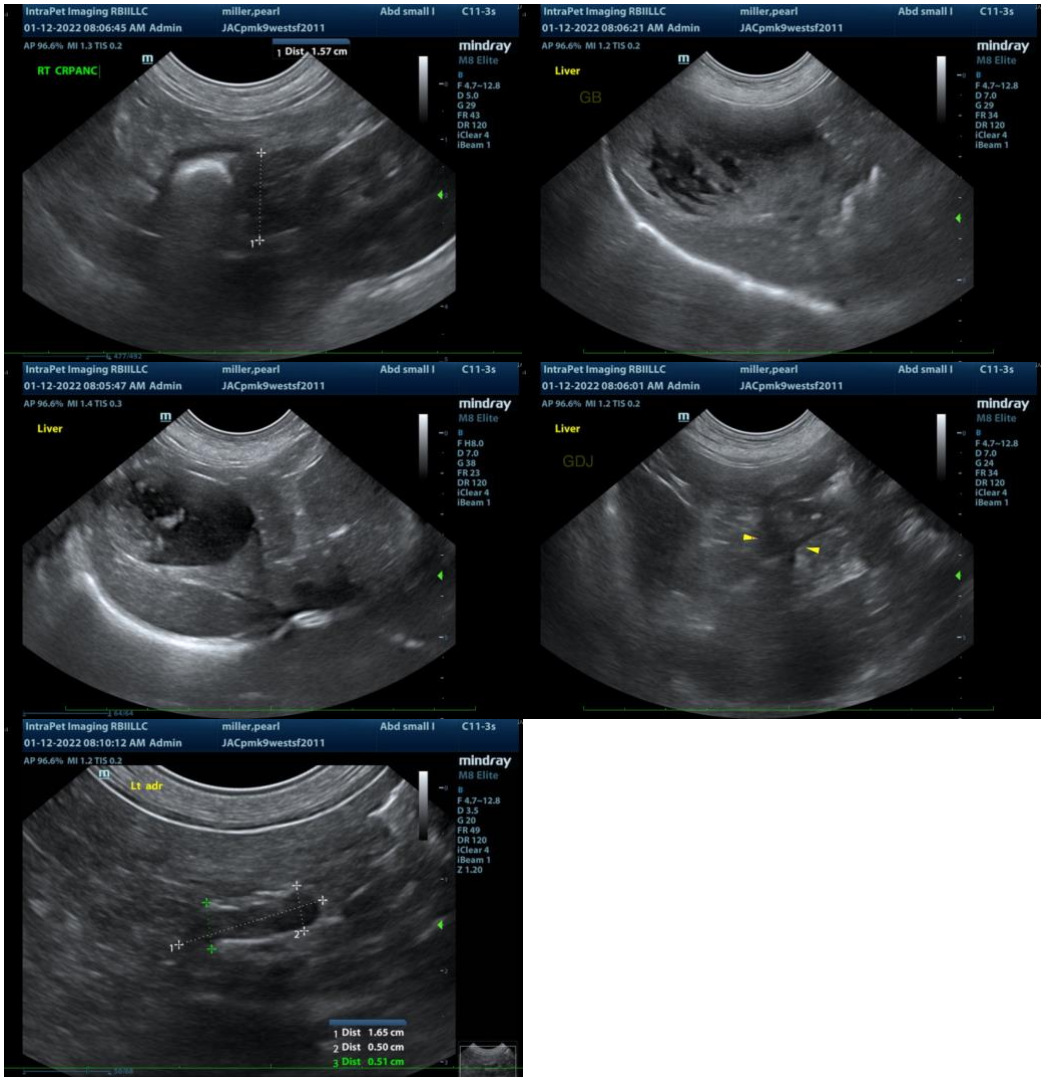

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
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