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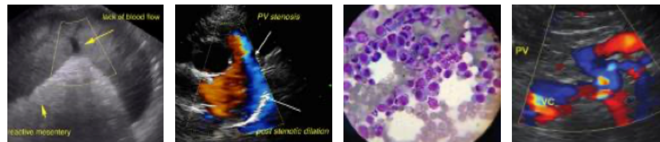
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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PATIENT
Penelope Rae

SPECIES
Feline

BREED
DLH

SEX
Spayed Female

AGE
4 years

WEIGHT
12.6 lbs

INTERPRETED BY
Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

IMAGING PERFORMED BY
Lucas Budden

HOSPITAL NAME
Frontier VH

REFERRING VET
Lucas Budden

INVOICE
12646

DATE
4.3.23

PRESENTING CLINICAL SIGNS

History: Clinical signs: weight loss, vomiting, diarrhea, decreased appetite, overgrooming History: Hx of recent weight loss, intermittent vomiting/hyporexia/diarrhea for the last month. All seem to be improving slowly. Indoor only. Recently moved to Portland, OR from California. Not UTD on vaccines. Ultrasound to assess for cause of hypercalcemia, enlarged kidneys on rads, and further assess GI tract for cause of signs.

Current medications: Sedation for imaging with gabapentin 100 mg prior and 0.3mg/kg Butorphanol

Abnormal PE/Chem/CBC/UA Results: Physical exam: moderate dental tartar/gingivitis, normal exam otherwise Lab work: 3/6/2023 cbc/chem/T4/FeLV/FIV/HW/Fecal Albumin high 4 Calcium high 12.6 Platelet low 158, adequate estimate remainder cbc/chem wnl Thyroid normal 2.8 FeLV/FIV negative/negative Heartworm negative Fecal negative 3/13/2023 UA USG 1.053 Protein 1+ Calcium oxalate dihydrate crystals 2-3 Amorphous crystals 0-1 3/17/2023 iCa and PTH Intact PTH low less than 0.5 Ionized calcium high 1.57 Total calcium high 12.9 Abdominal rads 3/16/2023 CONCLUSIONS: 1. Mild bronchial pulmonary infiltrate may reflect the result of technique in the absence of a reported cough. Feline asthma or infectious bronchitis are not entirely excluded. 2. Loss of serosal detail in the region of the left limb of the pancreas may indicate pancreatitis which may explain this animal's intermittent vomiting. No further abnormalities of the gastrointestinal tract are noted to explain this animal's intermittent vomiting differential diagnoses to consider include gastritis, gastroenteritis or a gastroenteropathy without excluding small intestinal lymphoma. 3. Both kidneys are enlarged which may suggest acute onset renal failure although diffuse neoplastic or inflammatory infiltration of the renal parenchyma such as caused by nephritis or lymphoma as well as subcapsular fluid accumulation of hydronephrosis should remain differential diagnoses.

RECOMMENDATIONS: - fPLI testing is recommended. -Screening abdominal ultrasound is recommended for further assessment of the gastrointestinal tract, kidneys and pancreas.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. Luminal contents are anechoic. No cystic calculi are observed. The region of the trigone and visible portion of the proximal urethra are normal.

The left kidney is mildly enlarged (4.51 cm in length) with slightly irregular shape. The cortex is isoechoic relative to the spleen and diffusely thickened. There are pinpoint hyperechoic foci within the cortex. There is mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia infarcts or hydroureter.

The right kidney is mildly enlarged (4.73 cm in length) with a normal shape and smooth peripheral contours. The cortex is isoechoic relative to the spleen and diffusely thickened. There are pinpoint hyperechoic foci within the cortex. There is mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia infarcts or hydroureter.

Adrenal Glands

The left adrenal gland is normal size (0.34 cm width). Normal shape and glandular echogenicity. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.34 cm width). Normal shape and glandular echogenicity. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen
The spleen is prominent in size (1.07 cm in width at the level of the hilus) with normal curvilinear peripheral contours. The parenchyma is slightly mottled in appearance. No distinct focal lesions are observed. Splenic vasculature appears normal with no obvious evidence of thrombosis.

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 portal vein to caudal vena cava ratio is approximately 1: 1.

The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

Gastrointestinal
The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is minimally fluid-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 thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

Pancreas
The left limb is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and subtly mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated.

Free Abdomen
The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The bilateral renal changes could be consistent with chronic interstitial nephrosis/nephritis or emerging neoplasia (i.e., lymphoma). Subtle dystrophic mineralization is observed in both kidneys.

Secondary Findings

- The splenic parenchymal changes are most consistent with a benign process such as lymphoid hyperplasia, extramedullary hematopoiesis, splenitis or antigenic stimulation with a low possibility of infiltrative neoplasia (i.e., lymphoma, mast cell neoplasia).

- Minor age-related pancreatic remodeling

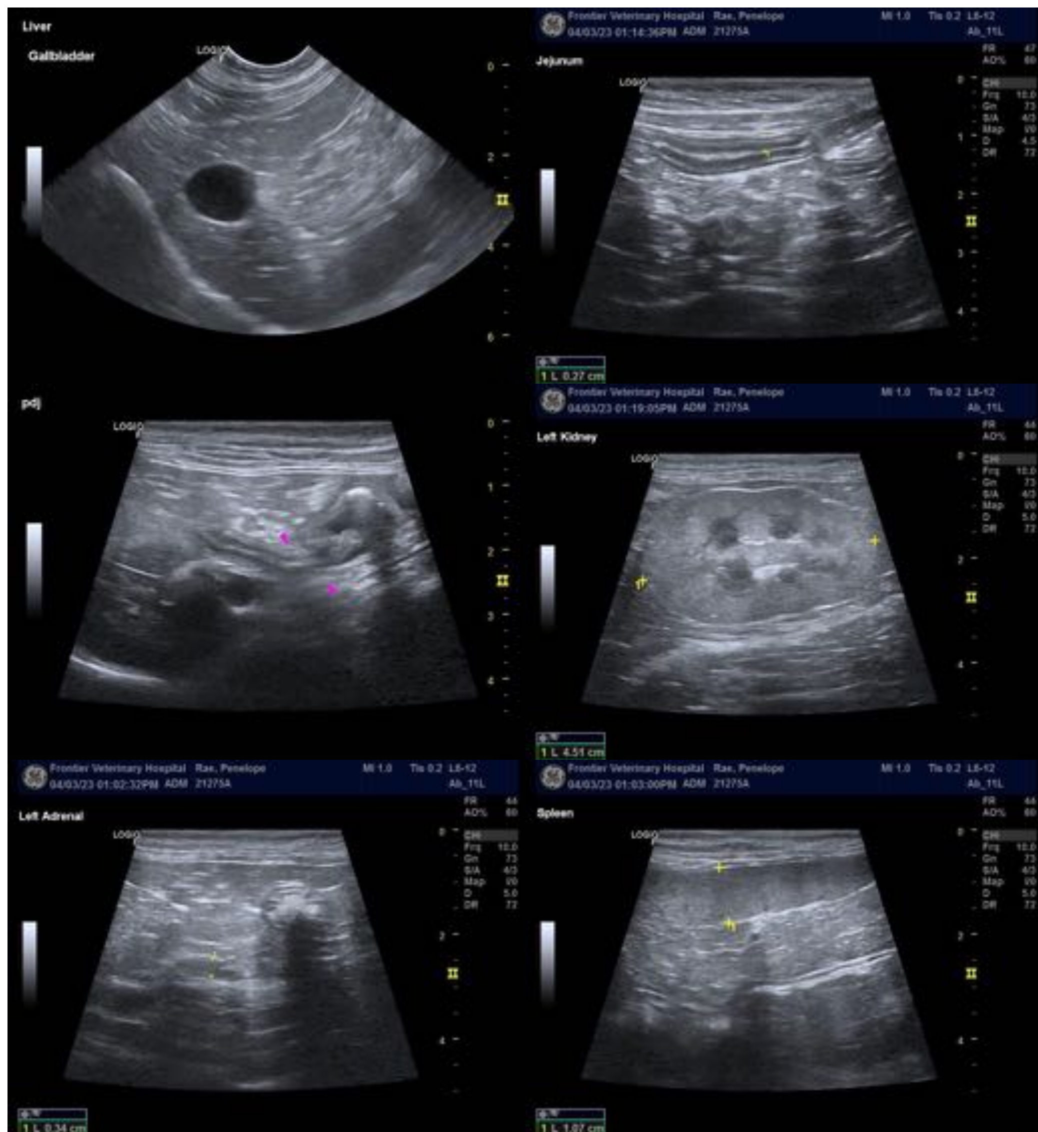
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

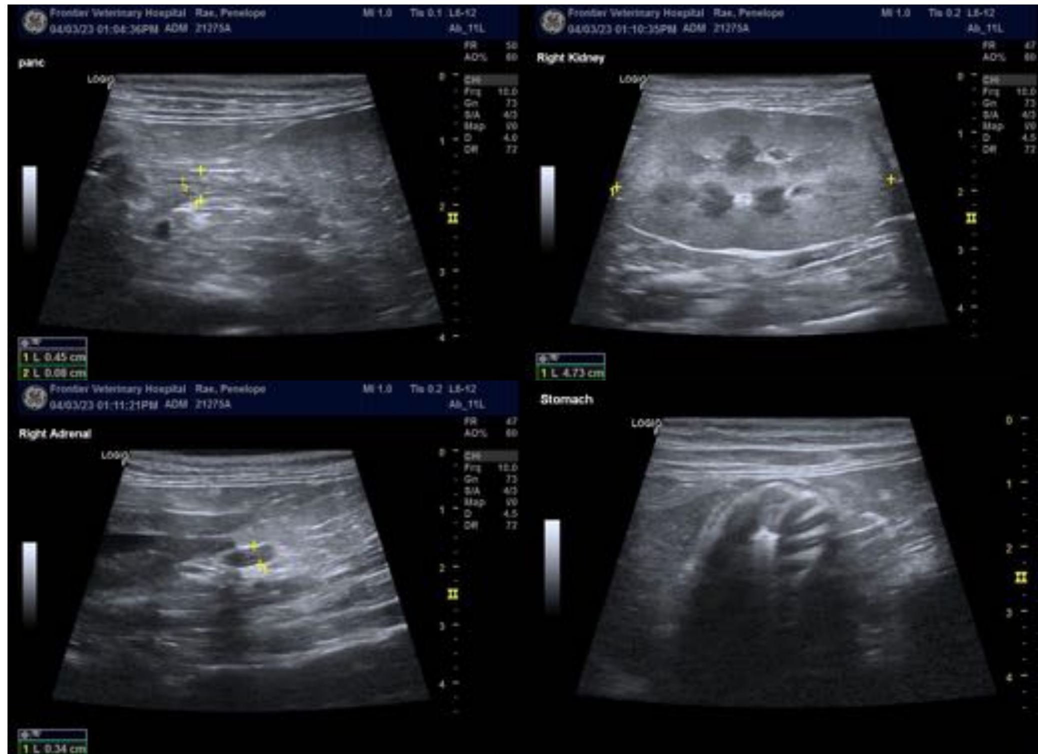
- Given the bilateral renal changes, a urine culture and sensitivity is recommended. A renal aspirate can also be considered if clotting status and blood pressure are normal.

- Regarding the hypercalcemia, consider a PTHrP to further evaluate for underlying neoplasia.

- Regarding the GI signs, consider the following:

    1. Fecal evaluation for ova and Giardia
    2. GI panel including serum cobalamin and folate, TLI and PLI
    3. Prophylactic deworming with Fenbendazole
    4. +/- 2-4-week limited antigen or hydrolyzed protein diet trial
    5. +/- endoscopic or surgical biopsies
    6. In the meantime, symptomatic care along with a probiotic +/- fiber supplement should be considered.





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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
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