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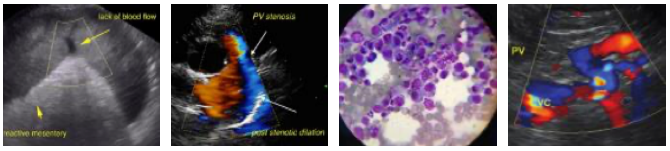


PATIENT
Chewi Clark

SPECIES
Canine

BREED
Chihuahua

SEX
Female, spayed

AGE
13 Yrs.

WEIGHT
20.4 lbs.

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

IMAGING PERFORMED BY
Dr. Budden

HOSPITAL NAME
Fronteir VH

REFERRING VET
Dr. Budden

INVOICE
14490

DATE
1/23/23

PRESENTING CLINICAL SIGNS

History: On and off diarrhea since November. Sometimes has blood. Lethargic and sleeps a lot. Enlarged and pendulous abdomen. Questionable spleen enlargement on rads. Liver enlargement on rads. Ultrasound to look for cause of diarrhea, changes to blood work, and to further assess liver/spleen enlargement.
Abnormal PE/Chem/CBC/UA Results: chest/abdominal rads 1/6/2023 CONCLUSIONS: 1. Equivocal cardiomegaly is most likely secondary to valvular disease (myxomatous mitral valve disease, tricuspid valve insufficiency) or less likely cardiomyopathy (HCM, DCM). This appears compensated at this time, with no evidence of congestive heart failure. There is also no clear radiographic evidence of heart base mass lesion at this point in time. 2. The diffuse bronchointerstitial pulmonary pattern is nonspecific and could reflect incidental aging change. However, given the history of coughing, chronic lower airway disease of allergic, irritant, infectious, or parasitic etiology should also be considered. 3. The diffuse hepatomegaly is an unspecific finding which can be secondary to congestion, metabolic or vacuolar hepatopathy (nodular lymphoid hyperplasia, hepatic lipidosis) and/or a more insidious process like infectious/inflammatory hepatitis or an infiltrative neoplasm. 4. There is no evidence of gastrointestinal disease, however, gastric mineral debris is most consistent with dietary indiscretion. RECOMMENDATIONS: Echocardiography and consultation with a cardiologist are recommended for further evaluation of the cardiac disease and to direct appropriate therapy if necessary. Further investigation of the patient's cough may include airway sampling via transtracheal wash or bronchoalveolar lavage with cytology and culture of the sample to look for evidence of bronchitis. Fecal examination with Baermann test may be considered to look for evidence of pulmonary parasites. A canine respiratory PCR panel could be considered to elucidate possible infectious causes of bronchitis. Alternatively, trial medical therapy for possible allergic or infectious bronchitis may be elected at this time. fecal 1/10/2023 negative cbc/chem/T4 1/17/23 ALKP 860, K+ 5.8 (0.2 elevated), Prec PSL 223, rest of chem wnl T4 1.5 (wnl) PLT 772, rest of CBC wnl

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly distended with anechoic urine. The wall is normal in thickness with a slightly irregular mucosal surface. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

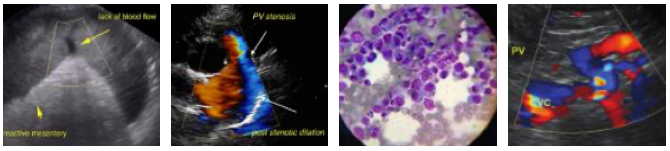
The left kidney is normal in size (4.61 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Pinpoint hyperechoic to mineralized foci are observed within the cortex. A few small cortical cysts are also seen. There is no evidence of pyelectasia, infarcts or hydronephrosis.

The right kidney is normal size (4.52 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Pinpoint hyperechoic to mineralized foci are observed within the cortex. 1-2 small cortical cysts are also seen. A few small non-obstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

Adrenal Glands

The left adrenal gland is normal size (0.48 cm at cranial pole) (0.50 cm at caudal pole); 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 (0.55 cm at cranial pole) (0.52 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex,



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Spleen

The spleen is normal in size (1.43 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A 0.37 cm hypoechoic nodule is observed at the caudomedial aspect. Splenic vasculature is normal.

Liver

The liver is subjectively enlarged with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely mottled in appearance with numerous varying sized hypoechoic nodules/areas throughout the organ, the largest measuring 2.65 cm in diameter. Vascular and biliary tracts are of normal volume with no evidence of congestion. The portal vein: caudal vena cava ratio is approximately 1:1. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of aggregated, echogenic, mostly gravity-dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The gastric lumen is not distended. The gastric wall is normal in thickness with a normal layering pattern. The small intestinal lumen is segmentally dilated with chyme. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. The muscularis layer at the ileocecocolic junction is prominent. The colonic wall is normal. No obstructive disease is noted.

Pancreas

The pancreas is diffusely prominent to enlarged with irregular peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat and slightly mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is visible but not overtly dilated (0.19 cm in diameter). The mesentery effacing the serosal surface is hyperechoic.

Free Abdomen

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

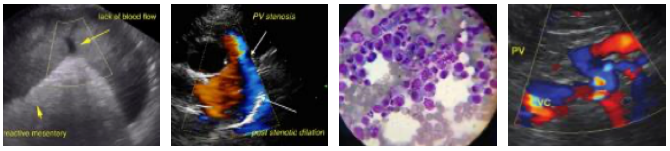
Other

A brief visualization of the thorax reveals a few suspected ring down lesions.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- The pancreatic changes are most consistent with chronic active pancreatitis.
- The hepatic parenchymal changes could be consistent with infiltrative neoplasia (i.e., round cell tumor). Alternatively, a benign process (i.e., regenerative nodular hyperplasia and/or vacuolar hepatopathy) is possible.
- Gallbladder debris/sludge- non-mucocele.



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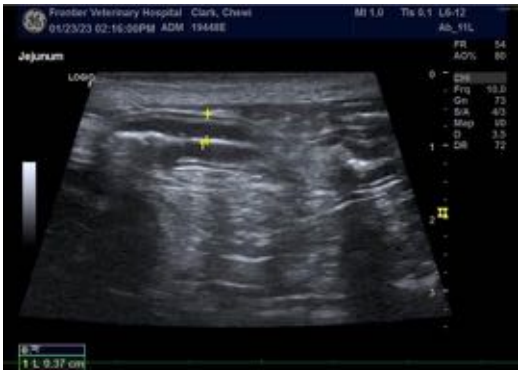
Secondary Findings:

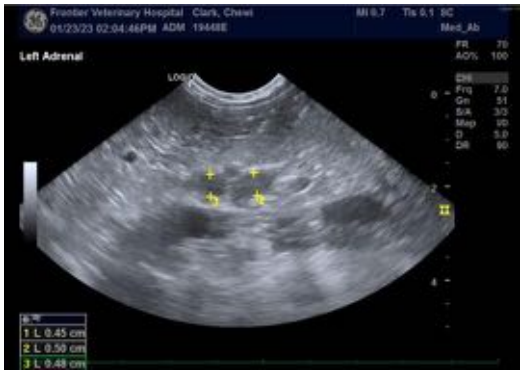
- Bilateral, chronic age-related renal changes with non-obstructive nephrocalcinosis.
- The hypoechoic splenic nodule trends toward the benign (i.e., focus of lymphoid hyperplasia or similar) with a lower possibility of emerging neoplasia.
- The ring down lesions in the thorax are consistent with the previously reported pulmonary parenchymal disease.
- The prominent muscularis layer at the ileocolic junction may be a normal variant for this patient or may represent inflammatory disease or emerging neoplasia.

*An obvious cause for the patient's chronic intermittent diarrhea is not definitively identified in this study. Considerations include pancreatitis, primary GI disease (i.e., inflammatory bowel disease, food allergy, infectious/parasitic disease), underlying metabolic issue, other.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Regarding the liver changes, consider a fine needle aspirate, if clotting status is appropriate. A 25 gauge needle should be used.
- Regarding the diarrhea, consider the following:
  1. Fecal evaluation for ova and Giardia
  2. Prophylactic deworming with Fenbendazole
  3. Fecal PCR infectious disease panel
  4. GI panel including serum cobalamin, folate, TLI and PLI
  5. Resting cortisol level
  6. Limited antigen or hydrolyzed protein diet trial
  7. Initiation of a probiotic as well as a fiber supplement +/- GI biopsies





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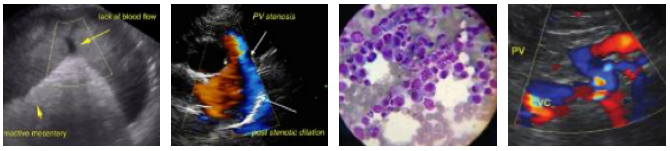

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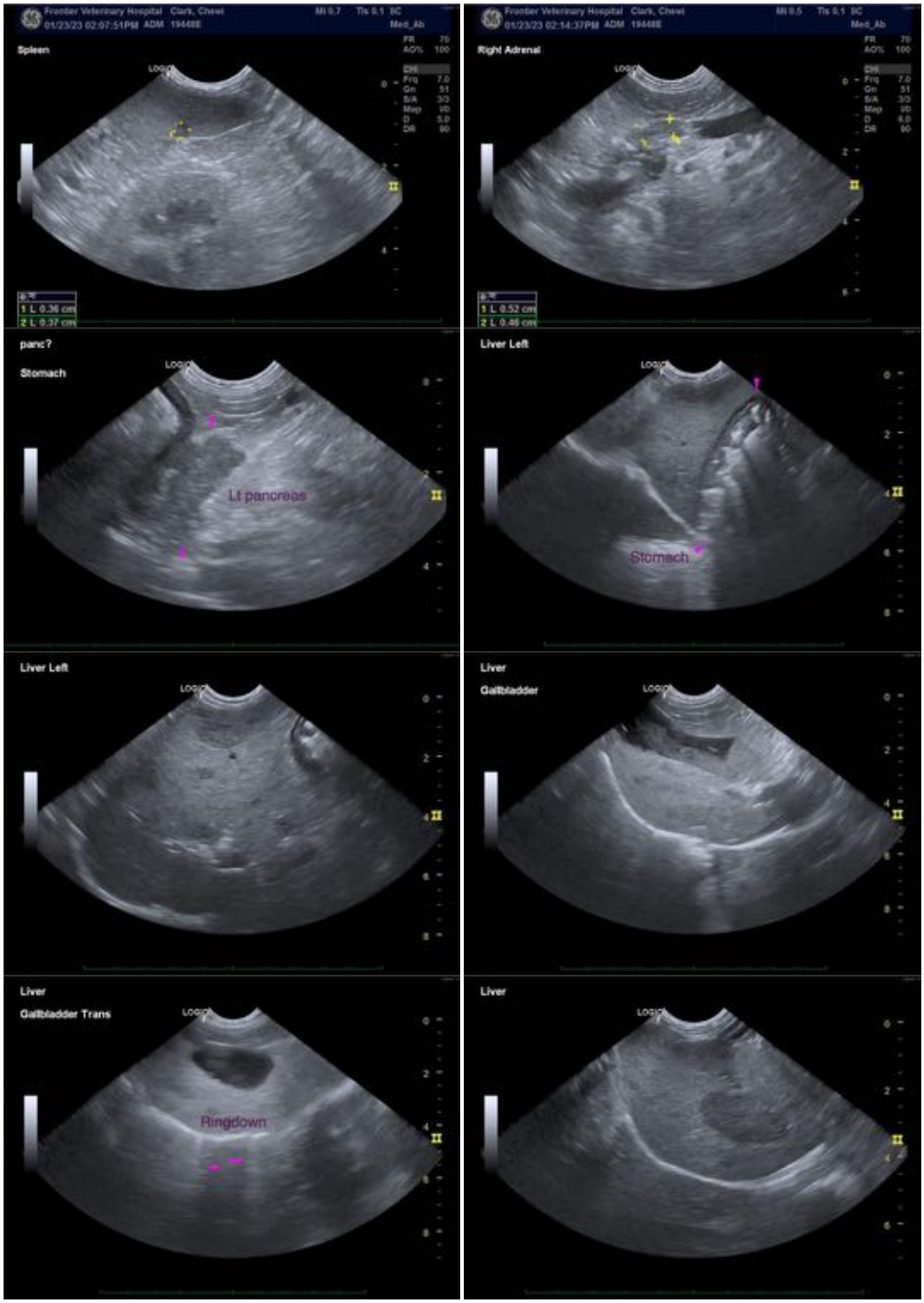

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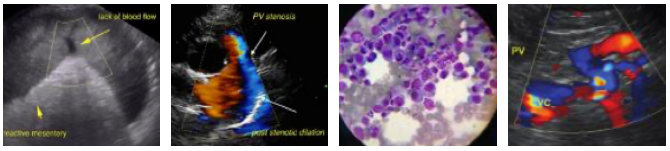

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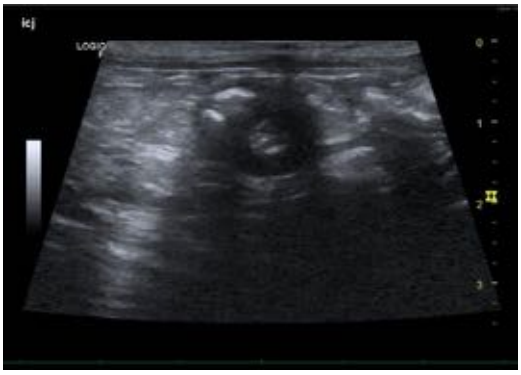

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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