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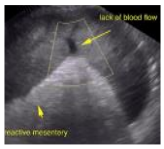
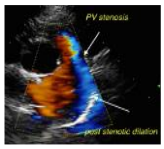
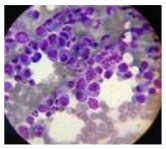
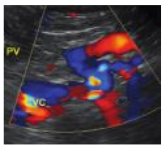

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1-800-838-4268 info@sonopath.com

PATIENT

Kingston Zamora

SPECIES

Canine

BREED

Shih Tzu

SEX

MN

AGE

16yr

WEIGHT

16.2lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Lucas Budden

HOSPITAL NAME

Frontier Veterinary Hospital

REFERRING VET

Lucas Budden

INVOICE

12739ag

DATE

01/22/2023

PRESENTING CLINICAL SIGNS

Seen 1/21/2023 for decreased appetite. Diagnosed at a different hospital with bronchitis earlier this month. Started on cefpodoxime (?) first and wasn't doing anything so started on doxycycline. Receiving hydrocodone for coughing. Appetite decreased in the past 2-3 days. Has also been lethargic. CBC/Chem performed and liver value elevations observed. Ultrasound to assess abdomen for cause of decreased appetite outside of doxycycline and to assess liver for cause of elevated values.

Abnormal PE/Chem/CBC/UA Results: PE 1/21/2023: recent weight loss of almost 2#, grade 1/6 apical systolic HM, possible muffled heart sounds upper right side, mild cough during exam, 5% dehydrated cbc/chem 1/21/2023 alkp elevated 373 r/o hepatic vs. benign hyperplasia ALT 373 rule out hepatic, secondary inflammation BUN 33 rule out dehydration, creatinine normal at 0.8 Rest of CBC CHEM WNL 3 view whole body rads 1/21/2023 FINDINGS: The cardiac silhouette is similarly normal in size and shape. The pulmonary lobar vasculature is normal. A similar mild, diffuse bronchial pattern is present, characterized by prominent bronchial walls. Within the right cranial ventral thorax there are multiple regions of arborizing mineral opacity. The pleural space and mediastinal structures are normal. Mild smooth osseous proliferation is present at the caudal aspect of the humeral heads and glenoids bilaterally. Mild smooth osseous proliferation is present at the costochondral junctions. The included portions of the abdomen are normal. CONCLUSIONS: 1. Similar mild, diffuse bronchial pattern with evidence of bronchial mineralization. Inflammatory lower airway disease is again prioritized. Although there is no evidence for it on this study, dynamic airway collapse cannot be excluded. 2. Mild bilateral glenohumeral osteoarthritis. There is again no evidence of cardiomegaly or cardiac decompensation. There is no evidence of pneumonia. RECOMMENDATIONS: Continued therapy for inflammatory lower airway disease is recommended. Fluoroscopic evaluation of the airway may be beneficial to assess for dynamic tracheal collapse. Alternatively, radiographs performed at peak inspiration and expiration may show this finding. Echocardiography may be beneficial to further assess the heart as radiographs are not sensitive or specific for cardiac function.

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 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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Left kidney lateral thinly walled cyst was present measuring 1.0 cm in diameter. The left kidney measured 4.6 cm in length. The right kidney measured 4.7 cm in length.

The area of the aortic trifurcation was free of pathology.

The area of the iliac trifurcation was free of pathology including no evidence of medial, iliac or sublumbar lymphadenopathy.

The residual prostate was normal in size and contour with mild heterogenous parenchyma. No overt pathology or neoplastic criteria was present, measuring 1.0 cm in diameter.

Adrenal Glands

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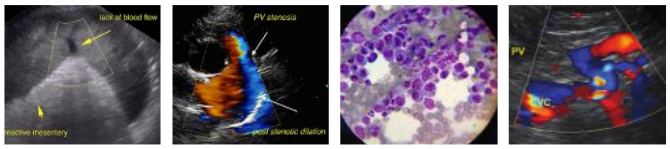

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A mildly expansive mixed echogenic discretely mineralized left adrenal nodule/small mass was present measuring 1.6 cm x 1.5 cm.

The right adrenal gland was borderline prominent in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The right adrenal gland measured 0.68 cm width in the cranial pole and 0.54 cm width in the caudal pole.

Spleen

A moderately expansive asymmetrical non-homogenous focally hyperechoic mid splenic mass measuring ~ 3.8 cm in diameter was present. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis.

Liver/Gallbladder

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. A solitary thinly walled intraparenchymal cyst was present measuring 1.5 cm in diameter. 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 non-dependent particulate debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. The gastric body wall measured 1.5 cm width. Mild gastric distension with primarily anechoic fluid was present.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio with non-specific duodenojejunal mucosal speckling. 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

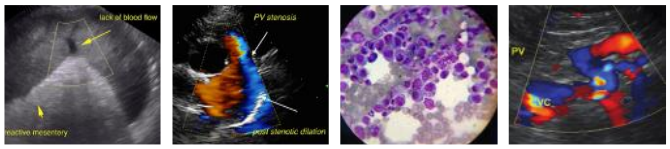
The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum, likely consistent with age related changes and considered incidental. No signs of active inflammation or neoplasia.

Free Abdomen

No omental masses, overt lymphadenopathy or peritoneal effusion was present. No evidence of splenic mass rupture.

ULTRASONOGRAPHIC FINDINGS

- Benign hepatopathy with intraparenchymal cyst
- Minor gallbladder debris (non-mucocele)
- Inflammatory gastroenteropathy pattern-gastroenteritis, potential for IBD
- Heterogenous pancreas- may indicate patient/ age variant, remodeling owing to previous inflammatory episode or mild to chronic pancreatitis possible
- Splenic mass-nonspecific, hyperplasia, hematopoiesis, granuloma, splenitis, or neoplasia (sarcoma, round cell neoplasia, other)



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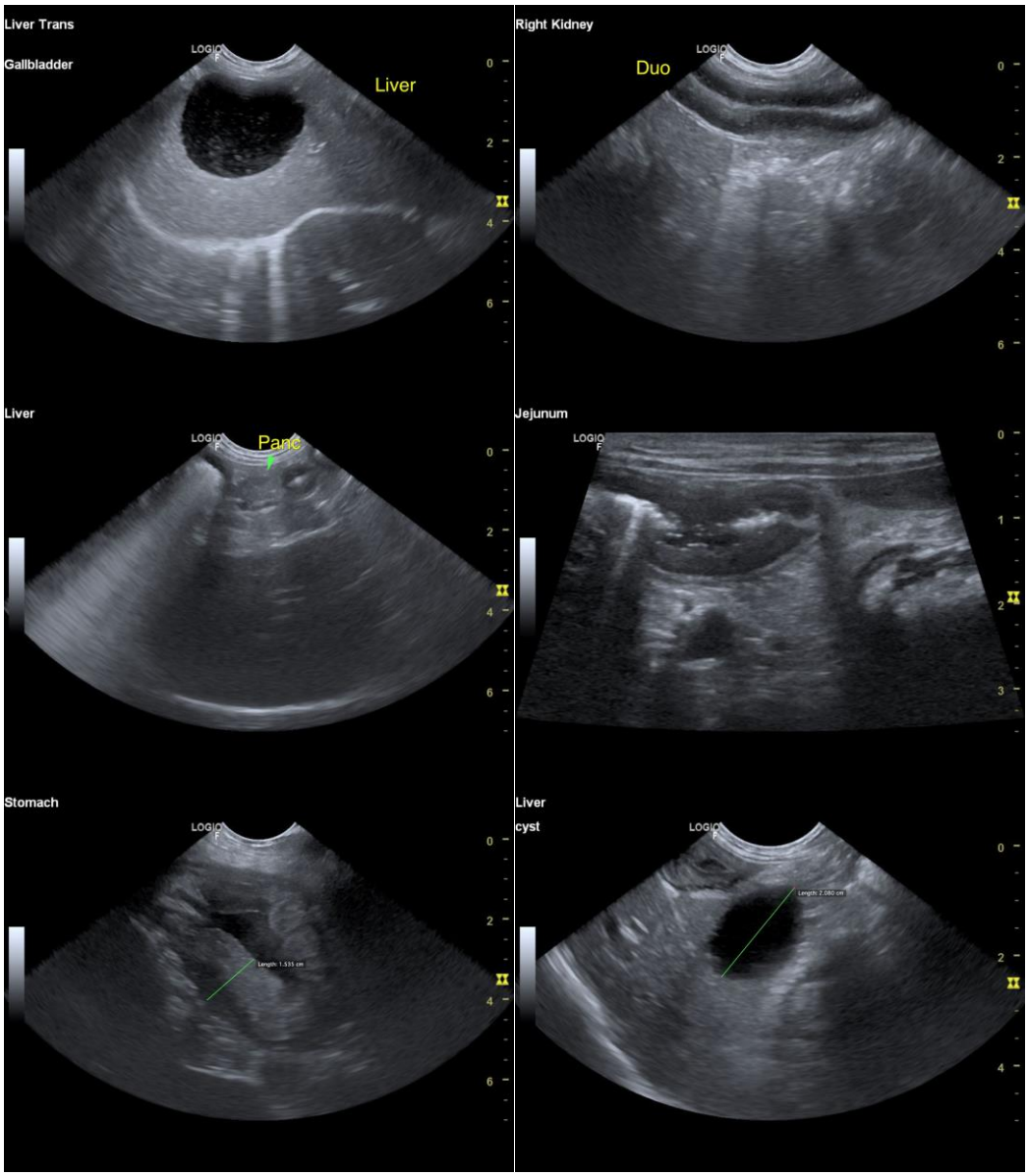
- Left adrenal mass-functional vs non-functional adenoma, hyperplasia, neoplasia including pheochromocytoma, adenocarcinoma or other
- Chronic renal changes with pinpoint corticomedullary mineral and left kidney cyst

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A GI panel to include PLI/TLI/Cobalamin/Folate is recommended. A screening BP is advised to assess for evidence of hypertension which may allude to emerging left adrenal neoplastic criteria i.e., pheochromocytoma. Assuming normal clotting status and using a 25g needle, a hepatic FNA for screening cytology could be considered for further assessment yet no overt evidence of hepatic or hepatobiliary neoplastic or obstructive criteria.

Sonographic monitoring of the splenic mass and left adrenal mass for evidence of progression with initial recheck in 4 weeks is likely ideal assuming surgery is not a potential for this patient.



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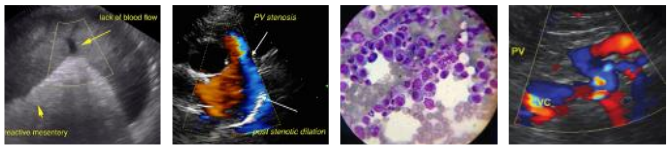

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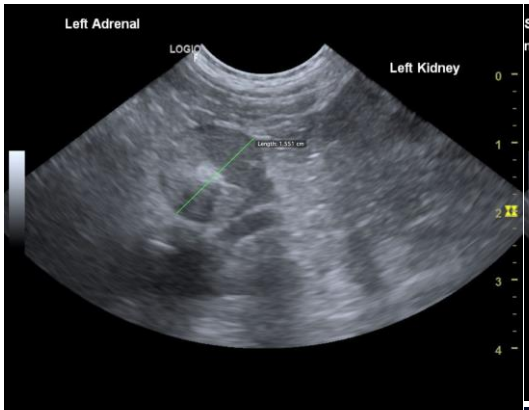

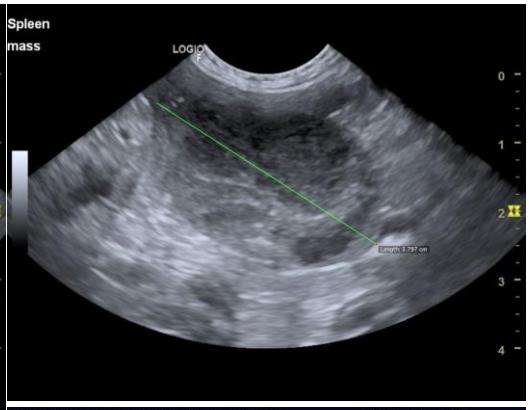

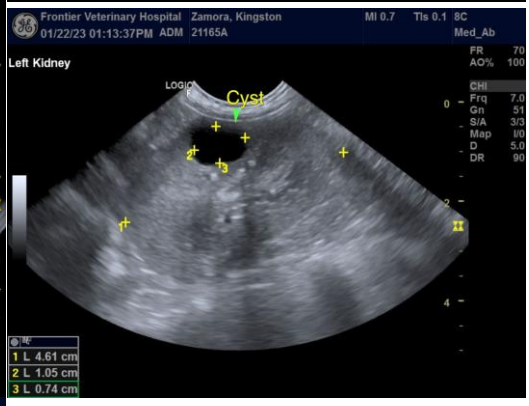

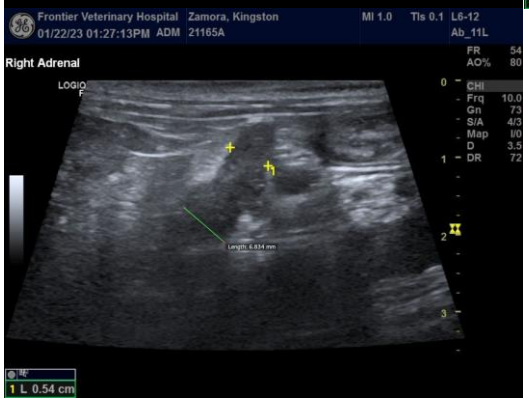

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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mac.daniel@sonopath.com