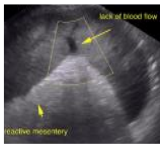
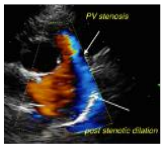
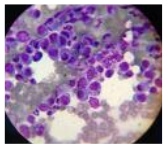
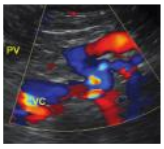
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Milo Derzaph

SPECIES

Canine

BREED

Pug

SEX

MN

AGE

10 years

WEIGHT

12.6 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Sarah Barthelemy

HOSPITAL NAME

Cranston VC

REFERRING VET

Dr. Erin Parchello

INVOICE

14724

DATE

8/25/22

PRESENTING CLINICAL SIGNS

Intermittent episodes vomiting and diarrhea, cranial abdominal pain. Course of therapy with hypo diet and prednisone resolved symptoms but now off pred and symptoms recurring.
Abnormal PE/Chem/CBC/UA Results: Inflammatory leukogram, elevated liver enzyme ALT, AST, ALP. Elevated bilirubin. Previous low albumin at 15 with normal upcr. Albumin normalized after prednisone. Resting cortisol normal.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and cystourethral junction 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 was noted.

The area of the aortic trifurcation was free of pathology.

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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.0 cm in length. The right kidney measured 3.8 cm in length.

Adrenal Glands

The left and right adrenal glands were not definitively visualized.

Spleen

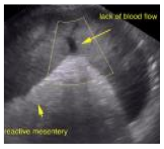
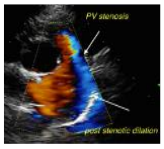
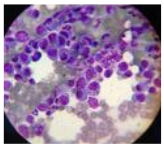
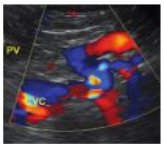
The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver/ Gallbladder

The liver presented normal to possibly mildly enlarged in size. The hepatic parenchyma was mildly hypoechoic compared to the spleen and renal cortical parenchyma with a mild coarse echotexture. Mild yet indistinct increased prominence of the portal vascular borders was noted. The capsule of the liver was normal in margination. Distinct masses or nodules were not evident. The hepatic and portal vasculature were normal in appearance. The gallbladder was mildly distended in size. The gallbladder walls were mildly thickened to nonuniformly hyperechoic in appearance. Anechoic content with moderate congealed to organized, mildly hyperechoic luminal debris was present in the gallbladder. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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The small intestine presented intact wall layering with subjective propensity for generalized prominent mucosa layer. The duodenum wall measured 0.41 cm width. The jejunum wall measured 0.43 cm width.

Normal visible colon wall layers were present with semi-formed to soft fecal matter.

Pancreas

The pancreas base and right pancreatic limb exhibited subtle prominent size with areas of capsule asymmetry and nonhomogeneous to mixed echogenic pancreatic parenchyma. Concurrent subtle evidence of peripancreatic hyperechoic mesentery was present.

Free Abdomen

Subjective evidence of mild regional peripheral omental inflammation around the gallbladder and caudal liver was noted. No evidence of peritoneal free fluid or lymphadenopathy was present.

ULTRASONOGRAPHIC FINDINGS

- hepatopathy
- Gallbladder mucocele with subjective evidence of mild peripheral inflammation
- Intact yet subjective prominent small bowel walls
- Heterogeneous to mixed echogenic pancreas
- Mild chronic renal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the elevated liver enzymes, evidence of reported cranial abdominal pain, and Inflammatory leukogram, the primary finding in this case is suspected to be the gallbladder mucocele with evidence of mild peripheral inflammation, which at times may result In concurrent gastrointestinal signs.

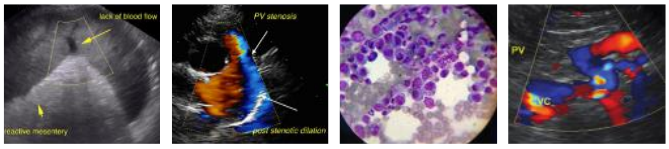
Potential for mixed pattern chronic to chronic active pancreatitis and / or primary Inflammatory enteropathy i.e., IBD as primary or contributing factors could also be possible. However, the sonographic appearance of the pancreas was not overtly consistent with significant active pancreatitis as a primary pathology.

Given this presentation, cholecystectomy along with hepatic, gastrointestinal +/- pancreatic biopsies, assuming normal clotting status, is warranted.

Empirically, some or all of the following protocol could be considered with close serial monitoring for evidence of increasing cholestasis, hepatic enzyme elevations, or for progressive cranial abdominal pain, with as-needed GI support. A GI panel to include PLI/TLI/Cobalamin/Folate could be considered for further assessment of the pancreas and small Intestine.

If surgery is not elected, sonographic reassessment of the gallbladder is recommended if evidence of increasing cholestasis, progressive cranial abdominal pain, and/or gastrointestinal signs.

Enrofloxacin 5 mg/kg SID PO & **Metronidazole** (10-20 mg/kg po bid) over 3 weeks, **Ursodiol (**10-15



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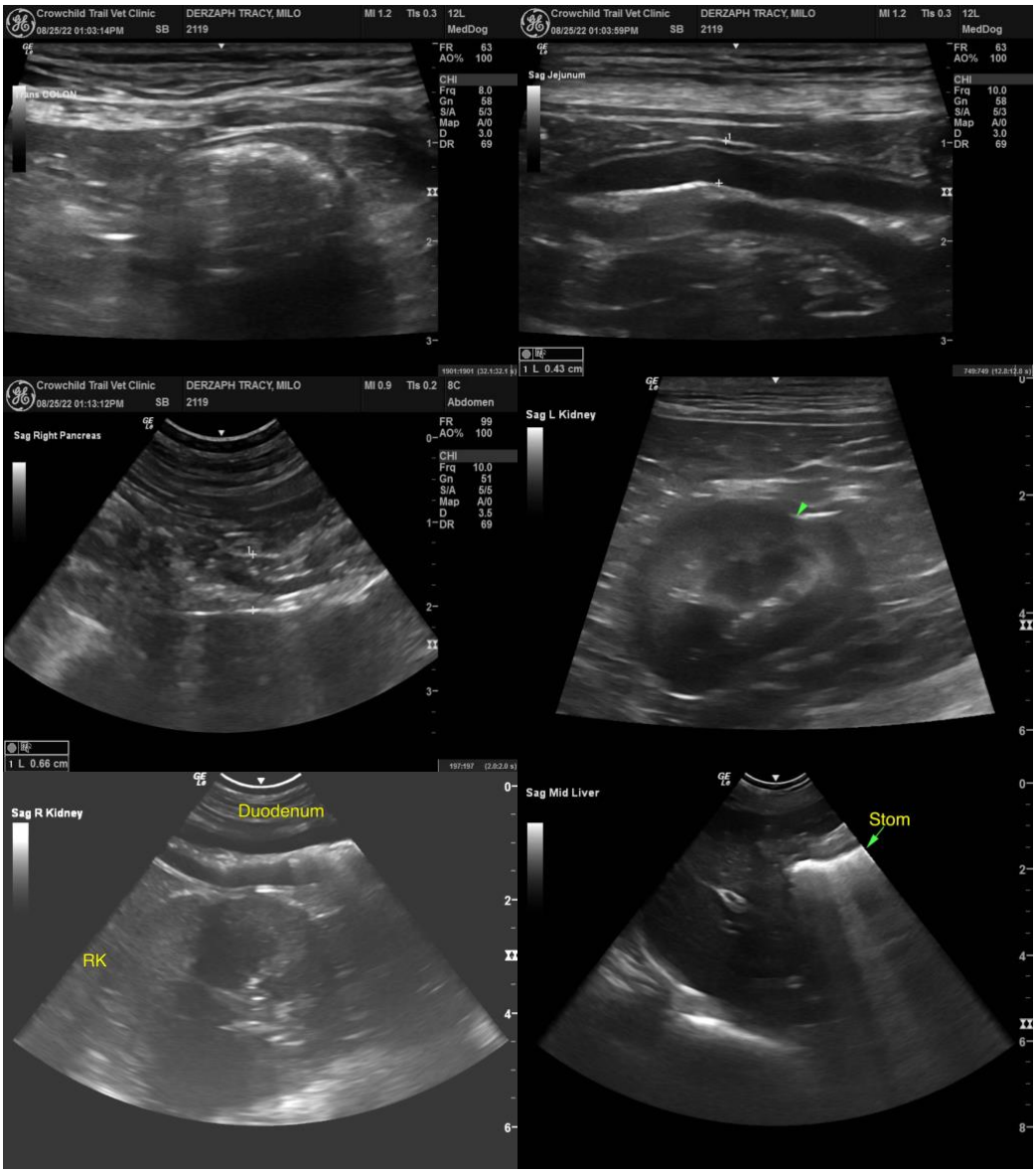
mg/kg p.o. q24h) over 8 weeks and recheck sonogram. Monitor rapid rise in ALT, SAP, Bilirubin, bilirubinuria, leukocytosis, focal cranial abdominal subxyphoid discomfort or progressive anorexia. More information regarding clinical emerging mucocele issues may be found with our article and research at http://sonopath.com/resources/articles, ***Defining a GB Mucocele*** and ***Clinical Parameters in Dogs with Sonographically Diagnosed Surgical Biliary Disease*** from ECVIM 2009.



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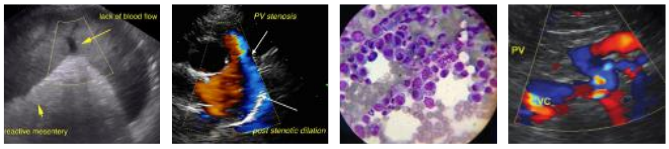

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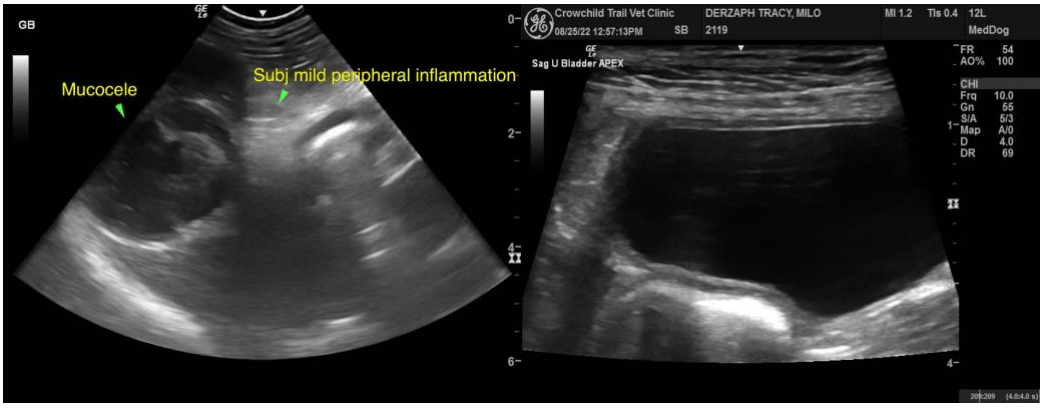

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
info@SonoPath.com