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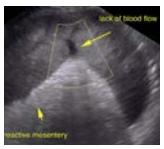
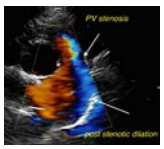
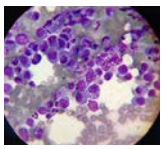
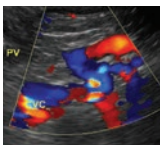





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Cypress Malashenko

SPECIES

Canine

BREED

Cockapoo

SEX

Spayed Female

AGE

11 Years

WEIGHT

9.8 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Evan Bell

HOSPITAL NAME

Cedarview AH

REFERRING VET

Dr. Kim Holzman

INVOICE

42676

DATE

11/9/22

PRESENTING CLINICAL SIGNS

Unregulated diabetic with inappetence (needs to be coaxed to eat or receives appetite supplements). Not ketotic. Rule outs include IBD, Addison's, neoplasia etc

Abnormal PE/Chem/CBC/UA Results: Platelets increased to 544 BG increased to 23.4 BUN increased to 11.8 Na decreased to 139 Na:K decreased to 27 Cl decreased to 103 ALP increased to 1994 Triglycerides increased to 4.72 (fasted sample) GI panel showed TLI > 50 Urine culture negative U/A: 1.041 pH 6.0 Protein 1+ Glucose 4+ Ketones negative RBC > 50 (suspect iatrogenic) Rods

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.68 cm thick). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. There is a small echogenic density along the dorsal wall that is likely a dependent accumulated mucus or cell or blood clot. However, a small polyp (likely benign) cannot be ruled out. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

The right kidney is normal in size (5.2 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal in size (5.4 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

The right adrenal gland is normal in size (0.90 cm at the cranial pole and 0.61 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

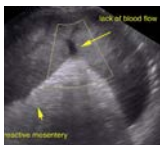
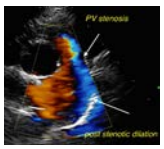
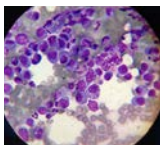
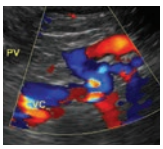
The left adrenal gland is normal in size (0.82 cm at the cranial pole and 0.67 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). Several 0.5-1.0 cm anechoic/cystic nodules are noted. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.=

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The colon is diffusely mildly thick, measuring up to 0.42 cm thick with normal intact layering but a slightly heterogeneous, hyperechoic, irregular mucosa.

Pancreas

The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Diffusely mildly thick colon with intact layering** – most consistent with a benign inflammatory colitis. Infiltrative neoplasia can't be ruled out but is considered less likely.
- **Hyperechoic hepatomegaly -** This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.
- **Bilateral medullary rim sign -** This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- **Chronic Cystitis -** Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

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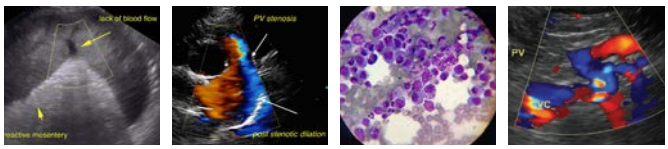

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SECONDARY FINDINGS

- **Pancreatic age-related remodeling –** Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.
- **Gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no obvious ultrasonographically visible cause for the patient's inappetence at this time. The pathology described above is overall benign in appearance or consistent with the reported history of diabetes mellitus and/or age related.

This patient's inappetence is likely metabolic in nature, potentially secondary to a urinary tract infection, given the reported bacteriuria. The urine culture was reportedly negative, but false negative cultures can occur, especially if antibiotics have been administered recently, or potentially from the hyperglycemia itself, which can make patients feel bad and not want to eat. In that case, since this patient responds reportedly to appetite stimulants, appetite stimulant could be administered regularly to ensure adequate caloric intake and allow insulin administration and tighter regulation of the diabetes to see if that ultimately improved appetite.

A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

Finally, the appearance of the colon supports some colitis, potentially low-grade gastroenteritis, possibly contributing to the patient's decreased appetite. Further evaluation of possible underlying parasitic or infectious disease could be considered with a fecal exam and a fecal enteropathogen PCR panel to Texas A&M GI Laboratory, followed by empirical deworming with a 5-day course of Panacur and a probiotic such as Visbiome or Proviable in addition to supportive symptomatic therapy, including the previously discussed appetite stimulant.

Ultimately, if inappetence persists beyond management of this patient's multiple metabolic issues, especially if diarrhea persists, further evaluation of the GI tract in the form of upper and lower endoscopy/colonoscopy may be helpful.

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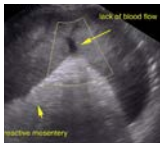
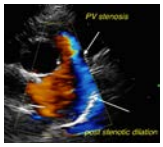
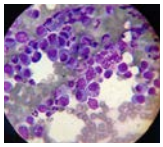
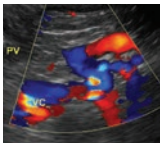

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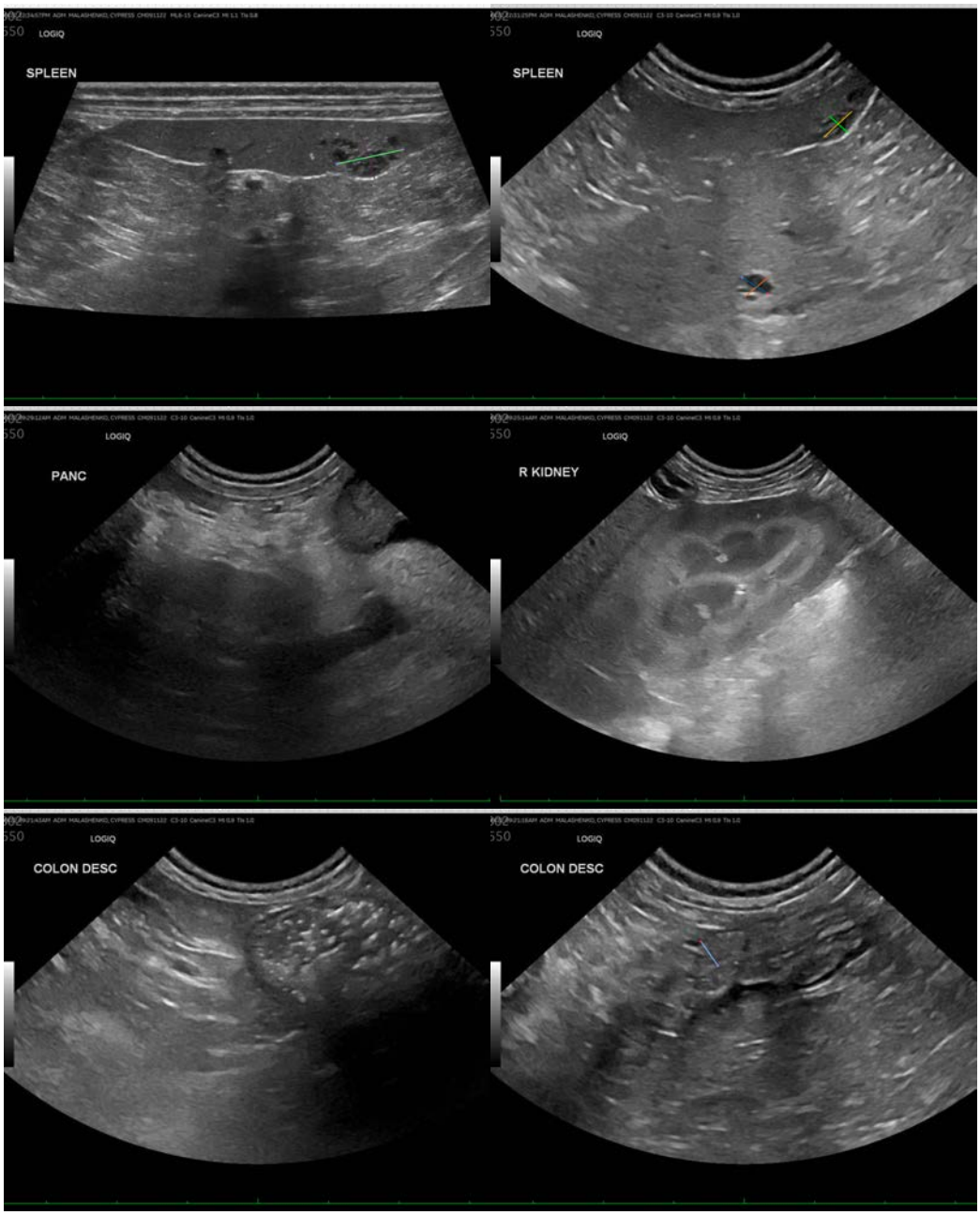

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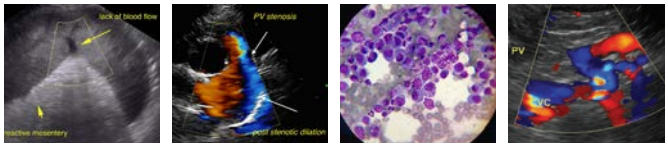

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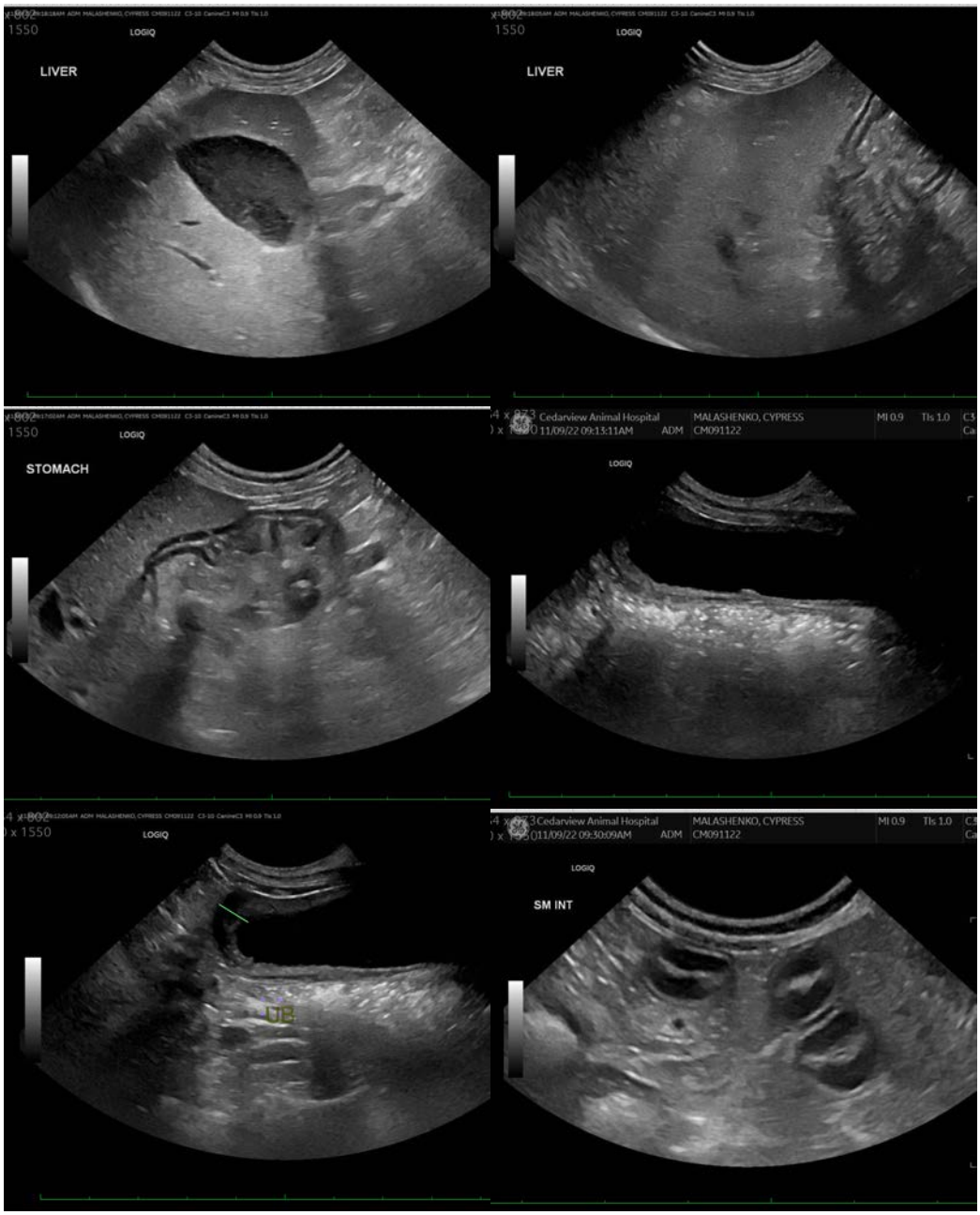

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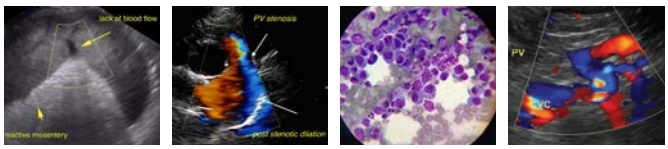

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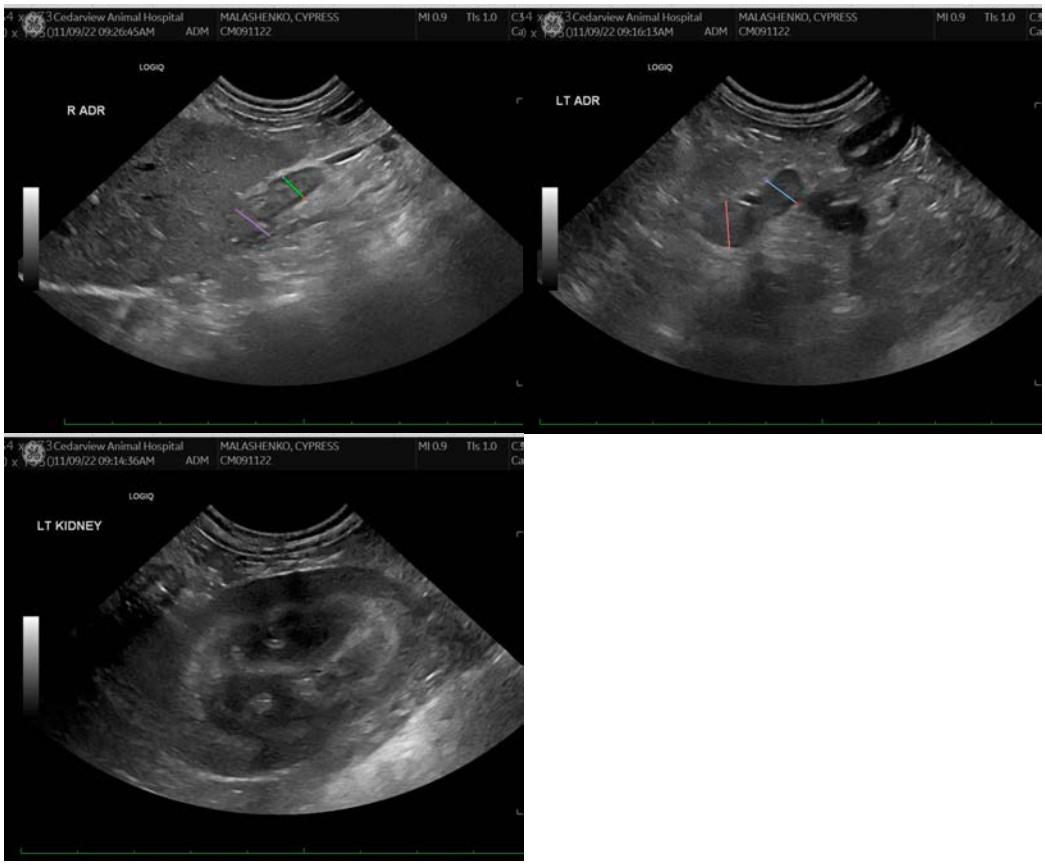

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com