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Clinical Sonography & Telecytology
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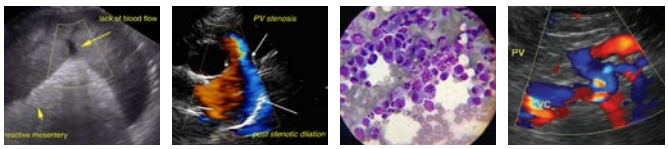

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1-800-838-4268 info@sonopath.com

PATIENT
Devo Gramazio

SPECIES
Canine

BREED
Coconut Retriever

SEX
Neutered Male

AGE
13 Years

WEIGHT
42 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Shohola Vet Hospital

REFERRING VET
Dr. Gramazio

INVOICE
43113

DATE
12/1/22

PRESENTING CLINICAL SIGNS

Increasing pancreatic enzymes, diarrhea and vomiting on and off, poor appetite. Hx of anal gland adenocarcinoma removed 3yrs ago. Current meds: Pred 5mg sid, Ondansetron 8mg sid, Omeprazole 10mg sid, Purina EN

Abnormal PE/Chem/CBC/UA Results: Eos 0.025 (0.07 L); TP 5.4 (5.5 L); ALT 188 (121 H); ALP 527 (160 H); GGT 20 (13 H); Amylase 2275 (1469 H); Lipase >1800 (250 H); Spec CPL pending, prev one 8/2022 508 (200 H)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (5.51 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.

The left kidney is normal in size (5.52 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.

Adrenal Glands

The right adrenal gland is normal in size (1.93 cm long x 0.63 cm at the cranial pole and 0.76 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 (2.34 cm long x 0.61 cm at the cranial pole and 0.59 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. Two discrete hypoechoic nodules are noted in the left liver. One measures 1.6 cm x 1.5 cm. The other measures 1.3 cm x 1.7 cm. Visible vasculature and biliary tree appear normal without distension or congestion.

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.

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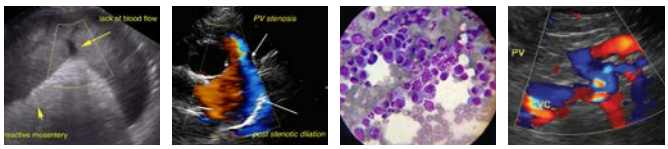

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Gastrointestinal

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. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine 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.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The area of the pancreas contains irregular hyperechoic pancreatic remodeling.

Free Abdomen

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

In the medial iliac lymph node area, there is an approximately 5.4 cm x 2.0 cm, poorly defined, homogeneous, isoechoic structure that could be an enlarged lymph node.

Additionally, the anal gland area is examined without evident pathology. However, this finding should be confirmed with digital rectal exam.

PRIMARY FINDINGS

- **Hyperechoic pancreas –** This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.

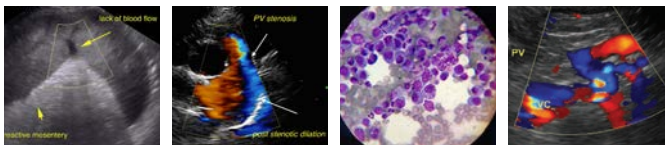
- **Liver nodules –** Differentials for a discrete liver nodule include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively ruled out. Given this patient's history of anal gland adenocarcinoma, metastatic lesions are considered slightly more likely than if there was not a history of neoplasia. However, it is exceedingly uncommon to met to the liver and bypass lymph nodes.

- **Isoechoic structure in the caudal abdomen in the area of the medial iliac lymph nodes** – This likely represents fat and/or other incidental normal patient variant tissue. However, an atypically enlarged lymph node cannot be definitively ruled out.

SECONDARY FINDINGS

- **Hyperechoic splenic nodules –** most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

- **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



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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.

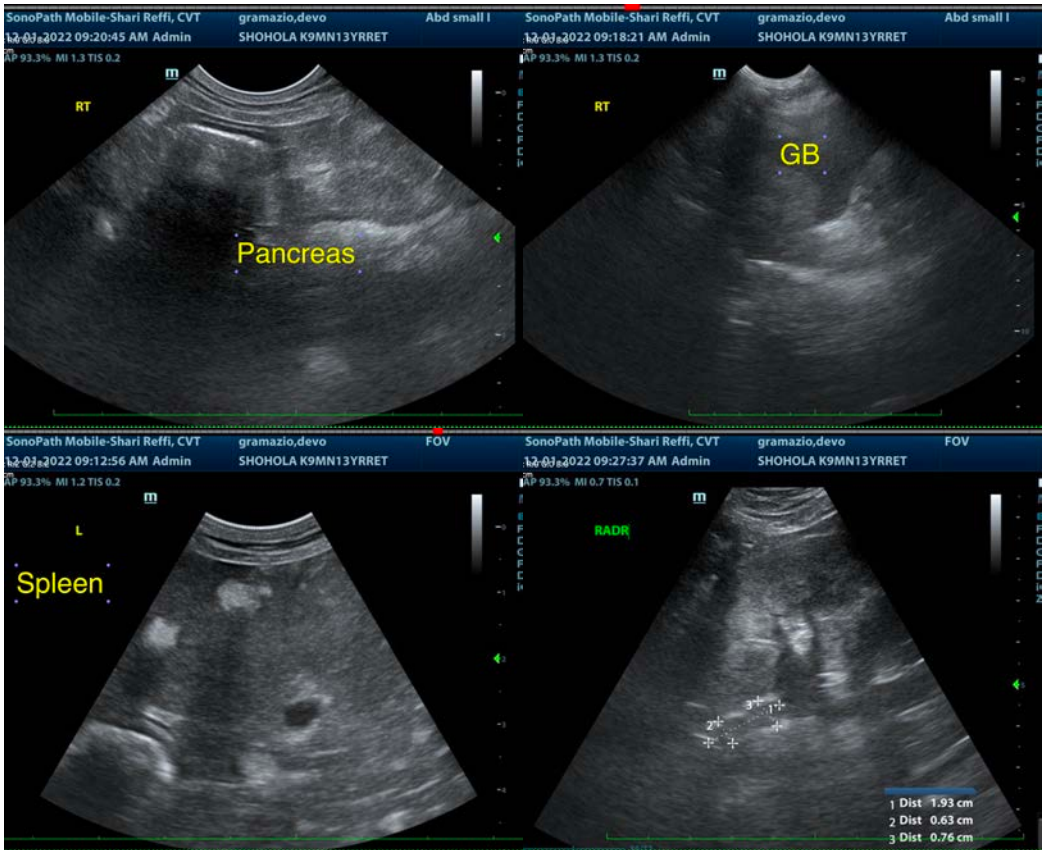
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's presenting complaint of gastrointestinal signs and mildly low protein levels, further evaluation of the GI tract is warranted, beginning with A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory.

Additionally, if not already evaluated, to further investigate the low protein, a urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

While the medial iliac area and the liver changes described above both trend toward benign in appearance, given this patient's history, a fine needle aspirate of both areas could be considered if patient's coagulation status is appropriate (the medial iliac structure described as well as the liver nodules).

In the meantime, empirical deworming with a 5-day course of Panacur is recommended, as is a probiotic such as Visbiome or Proviable, and transition in diet based on trial and error response could be considered, beginning with an ultra-low-fat diet, given the low albumin, and proceeding to potentially a hydrolyzed protein diet if no effect, and ultimately a fiber response colitis diet, etc.



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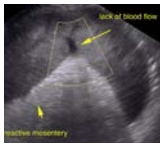
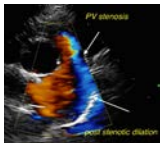
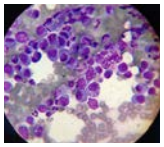
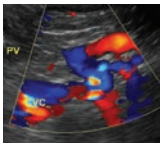

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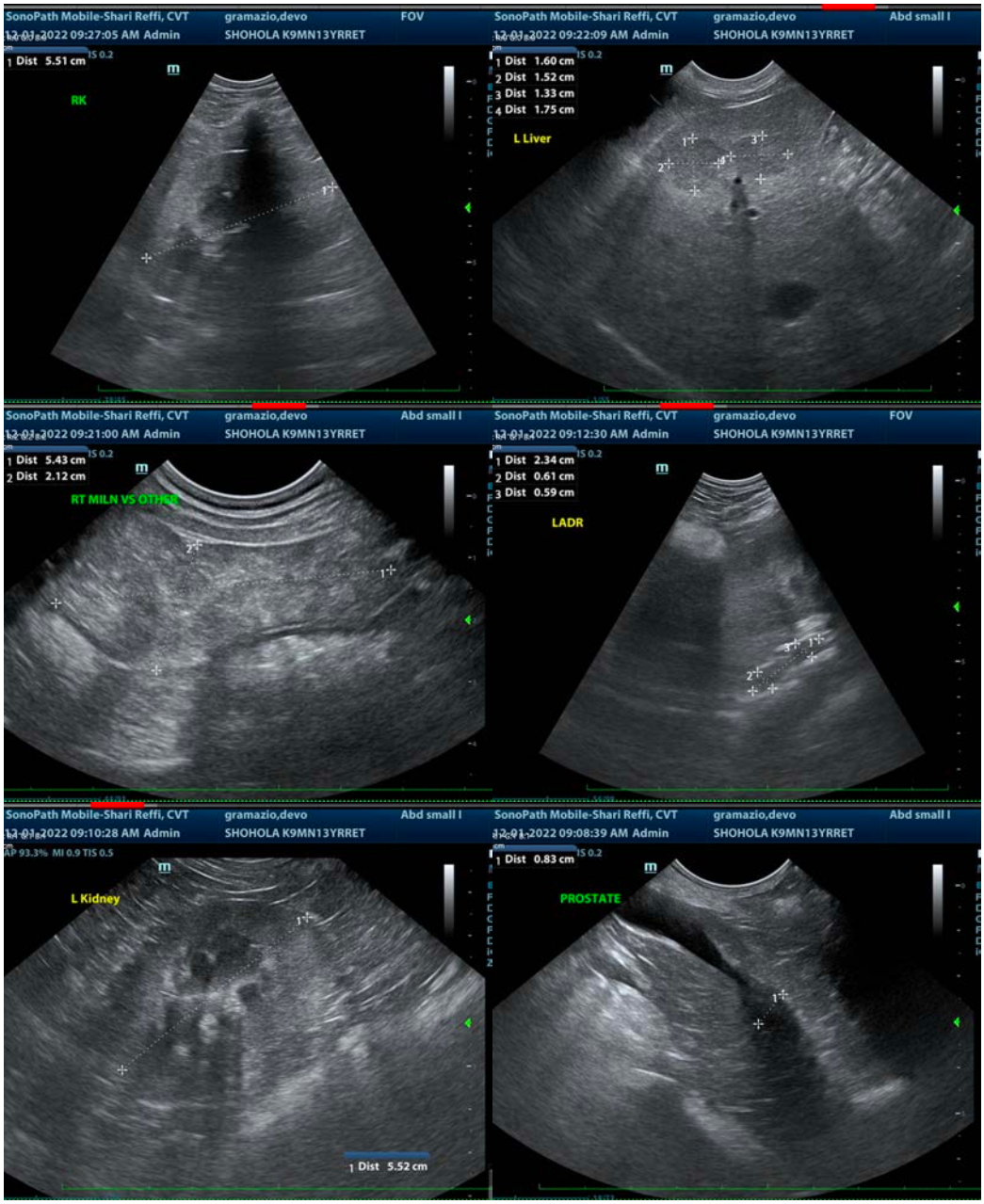

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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