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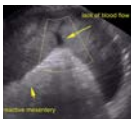
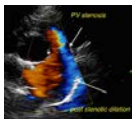
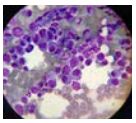
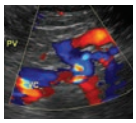

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IMAGING PERFORMED BY
dbimaginesound@gmail.com 917-647-4318

PATIENT

Kulka Kuc

SPECIES

Canine

BREED

Pomeranian x

SEX

Spayed Female

AGE

2012

WEIGHT

12.84 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Denise Bruno, LVT, RDMS

HOSPITAL NAME

Farview Animal Clinic

REFERRING VET

Dr. Mosaad

INVOICE

46071

DATE

3/21/23

PRESENTING CLINICAL SIGNS

Chronic diarrhea. On Tylan powder 1/8 teaspoon Tid.

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. Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of mineral or infarcts observed. Multiple small cortical cysts noted bilaterally. Mild pyelectasia measuring 0.17 cm is noted on the left kidney in the transverse view. The left kidney measures 4.22 cm. The right kidney measures 4.53 cm.

Adrenal Glands

The right adrenal gland is normal in size (1.54 cm long x 0.52 cm at the cranial pole and 0.48 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 (1.33 cm long x 0.47 cm at the cranial pole and 0.55 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). A 2.3 cm x 2.0 cm heterogeneous cavitated vascular mass is noted in the mid spleen, resulting in capsular bulge. 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. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion. Several small punctate intrahepatic biliary mineral densities are noted.

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. Cystic and common bile duct are mildly dilated and contain punctuate mineral densities. Dilation measures 0.51 cm dilated. There is no evidence of effusion.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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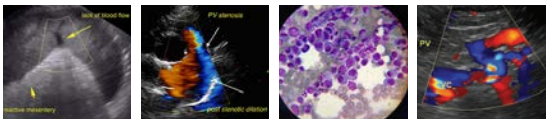

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The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine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

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

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. 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

- Cavitated splenic mass – This can represent a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., or infiltrative neoplasia, which can exactly mimic benign lesions cannot be ruled out.

- **Emerging mucocele with some intrabiliary system mineral –** 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. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele. The intrabiliary system mineral may be at least partially obstructed, given the dilated common bile duct. This finding should be interpreted in combination with clinical signs and/or laboratory changes.

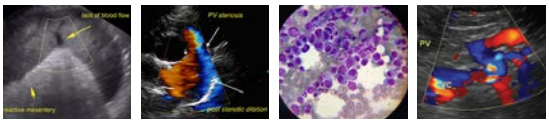
SECONDARY FINDINGS

- **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.

- Age related kidney changes with small bilateral cortical cysts and very mild pyelectasia in the left kidney.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pathology described above is likely mostly incidental finding and not related to this patient's diarrhea. Therefore, further investigation of gastrointestinal tract health is recommended with a fecal exam (if not already evaluated) as well as a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory and a fecal enteropathogen PCR panel to Texas A&M GI Laboratory. The Texas A&M GI laboratory should be contacted regarding how long to discontinue Tylosin prior to obtaining a stool sample for the PCR panel. Having said that, while likely not related to the diarrhea, further evaluation and possibly treatment of some of the pathology is recommended, including three view thoracic radiographs for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated, as well as a fine needle aspirate of the splenic mass if patient's coagulation status is appropriate.



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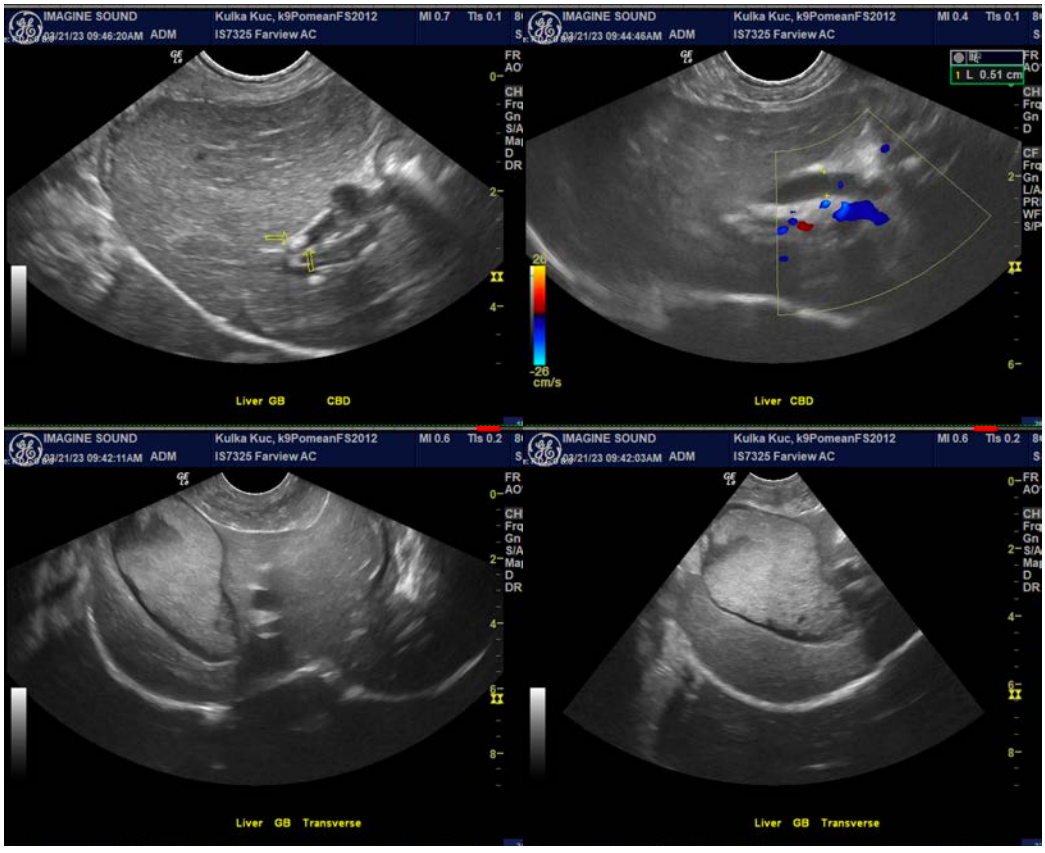
If a more conservative approach is elected, ultrasound monitoring of the mass should be planned. If a more aggressive approach is elected, an exploratory laparotomy for planned splenectomy could be pursued, at which time a cholecystectomy, liver biopsy, and GI biopsies could also be considered. If surgery is not elected, then empirical medical management of the emerging gallbladder mucocele is recommended at this time with Ursodiol +/- broad-spectrum antibiotics with monitoring of ALP for improvement. If improvement is noted, antibiotics should be continued until liver values either normalize or plateau. However, if improvement is not noted, antibiotics should not be continued long-term. If clinical signs progress, especially including cranial abdominal pain, nausea, vomiting, etc., ultimately surgery may be necessary for a cholecystectomy.

Finally, if not recently evaluated, 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.

In the meantime, other empirical therapies given the diarrhea include empirical deworming with a 5-day course of Panacur and a probiotic such as Visbiome or Proviable, as well as, if tolerated, transition in diet to a hydrolyzed protein diet.



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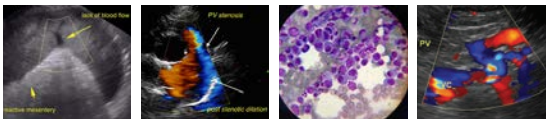

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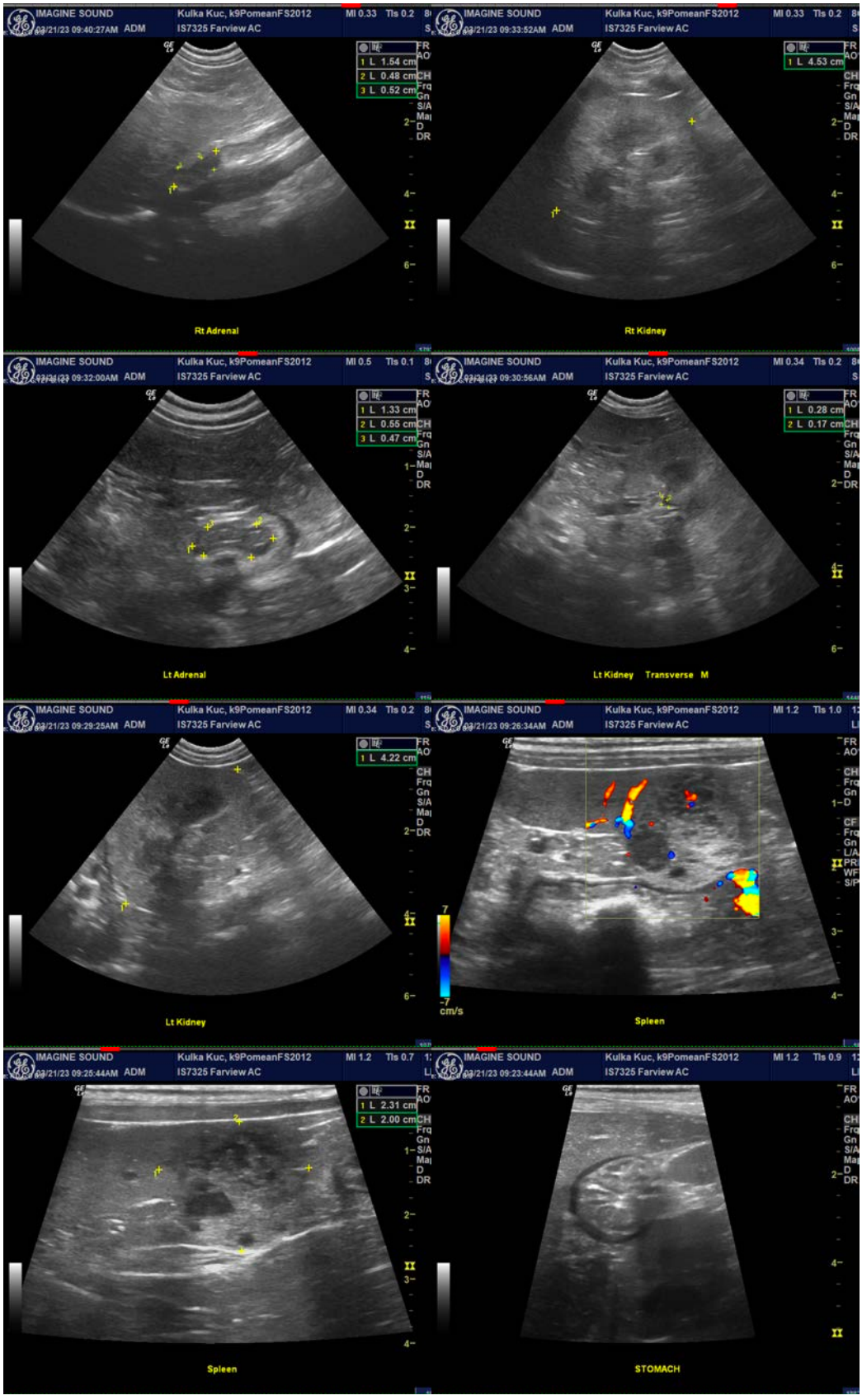

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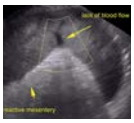
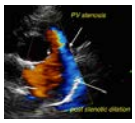
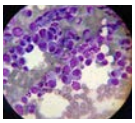
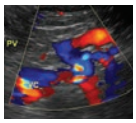

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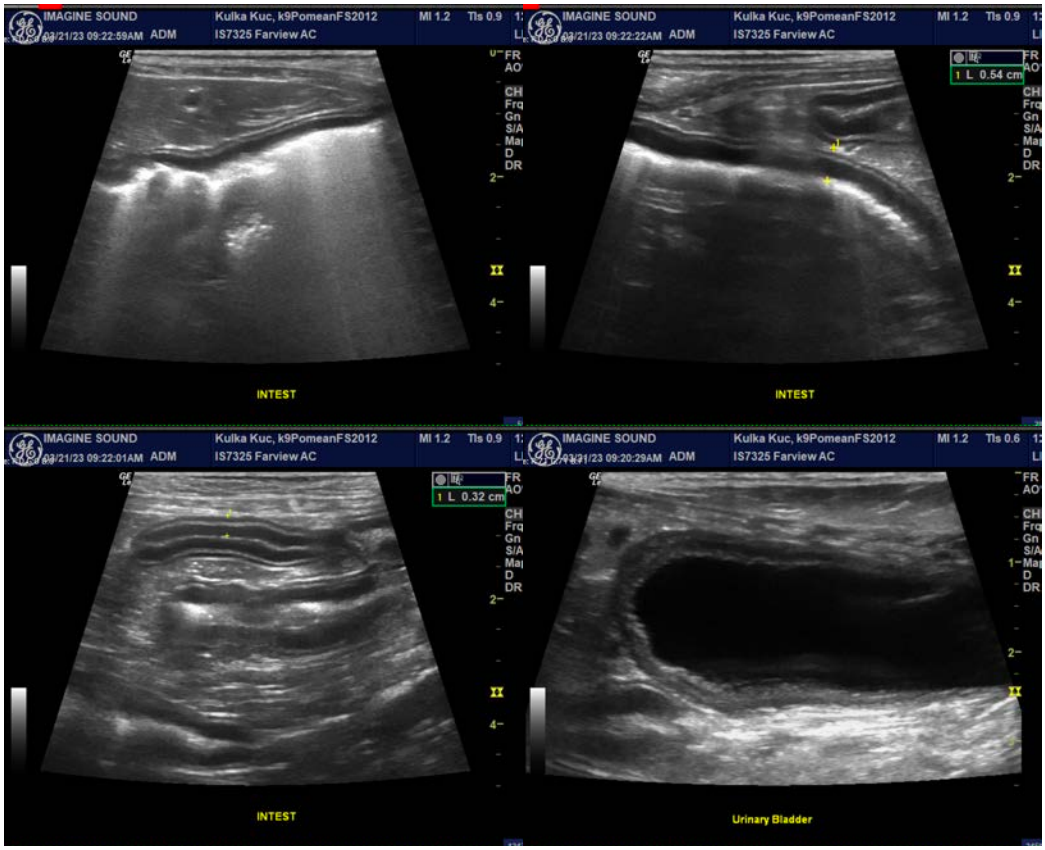

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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