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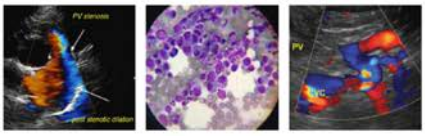

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PATIENT
Maizie Mitchell

SPECIES
Canine

BREED
Chihuahua

SEX
Spayed Female

AGE
14 Years 2 Months

WEIGHT
6.9 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Amy Mayhew, LVT

HOSPITAL NAME
SVS Imaging MI

REFERRING VET
Dr. Steep

INVOICE
44548

DATE
8/1/23

PRESENTING CLINICAL SIGNS

Decreased appetite progressing over the past month, with increased thirst & urination over the past few weeks. Recheck exam Progressive changes over the last 6 weeks Gag/cough after activity PU/PD Decrease in appetite

Abnormal PE/Chem/CBC/UA Results: CPL 657, Urine Creatinine 68.8, Urine protein 558.1, UPC 8.1 Labwork reveals thrombocytosis, elevated BUN, hyperlipaemia, proteinuria, hyaline and granular cases (SG 1.026, pH 6.5). T4 level is 1.7 ug/dL; which is ~24 hours post pill (owner gives SID) **Please see attached in link.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in 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 infarcts observed. The left kidney measures 3.3 cm. The right kidney measures 3.66 cm. Punctate non-obstructive nephroliths noted bilaterally. Trace pyelectasia noted bilaterally.

Adrenal Glands

The right adrenal gland is normal in size (0.43 cm at the cranial pole and 0.39 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 (0.46 cm at the cranial pole and 0.49 cm), 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. Additionally, multiple non-capsule disrupting hypo- to anechoic nodule are noted throughout the parenchyma, most approximately 0.5 cm in diameter, with the largest being 1.2 cm x 1.5 cm. 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. A 1.1 cm x 1.2 cm discrete hyperechoic homogeneous nodule is noted in the left caudal liver. Visible vasculature and biliary tree appear normal without distension or congestion.

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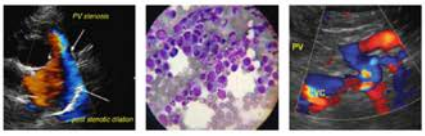

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Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. 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.

The visible small intestines are normal in wall thickness and layering. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen is empty with no evidence of obstruction or foreign material.

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.

ULTRASONOGRAPHIC FINDINGS

- Emerging mucocele – 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.

- Mucosal speckling – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.

- 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.

- Hypo to anechoic splenic nodules – likely represents benign lesions such as cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

- Liver nodule- Differentials for a discrete liver nodule include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipoma, etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and

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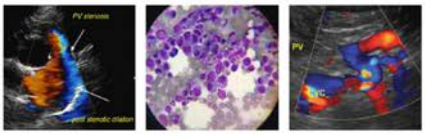

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metastatic disease can mimic benign lesions and cannot be definitively ruled out.

- Age related kidney changes with non-obstructive bilateral nephrolithiasis and trace pyelectasia.
- Urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's reported newly developed proteinuria, if not recently evaluated, a blood pressure is recommended as is testing for Leptospirosis +/- other infectious diseases that are geographically appropriate.

This patient has both gastrointestinal tract changes as well as potentially gallbladder changes that could also contribute to decreased appetite. Further evaluation of the gastrointestinal tract health is recommended, beginning with a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory.

If nausea, cranial abdominal pain, etc. are present to further support the gallbladder as a contributing factor to this patient's decreased appetite, ultimately surgical evaluation and a cholecystectomy may be required. However, in the meantime, empirical medical management could be considered, beginning with hepatic nutraceuticals including Ursodiol, potentially broad-spectrum antibiotics, etc. in addition to other supportive/symptomatic medical management of decreased appetite (i.e., appetite stimulants).

In the meantime, in addition to supportive/symptomatic medical management of clinical signs including potentially antiemetics for subclinical nausea in addition to the above recommended appetite stimulants, gastroprotectants, etc., the reported UPC is increased enough to warranted medical management of protein losing nephropathy, beginning with ACE inhibitors or ARBs, fatty acid therapy if tolerated, ideally a kidney friendly diet (although that may be difficult in an anorexic patient), and, if coagulation status is appropriate, antithrombotic such as low-dose aspirin or Plavix.

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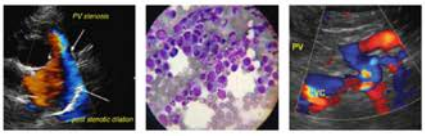

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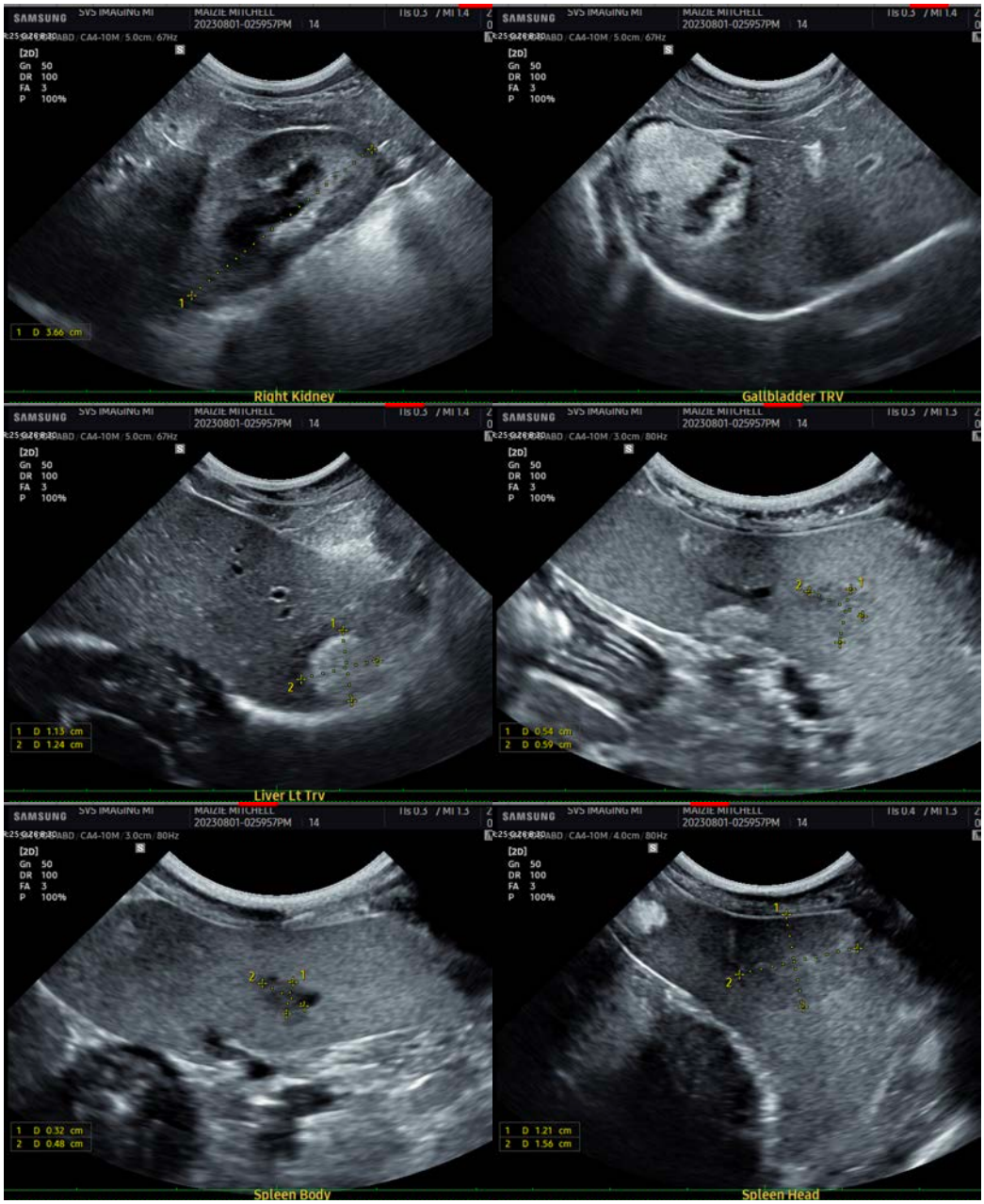

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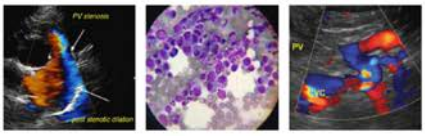

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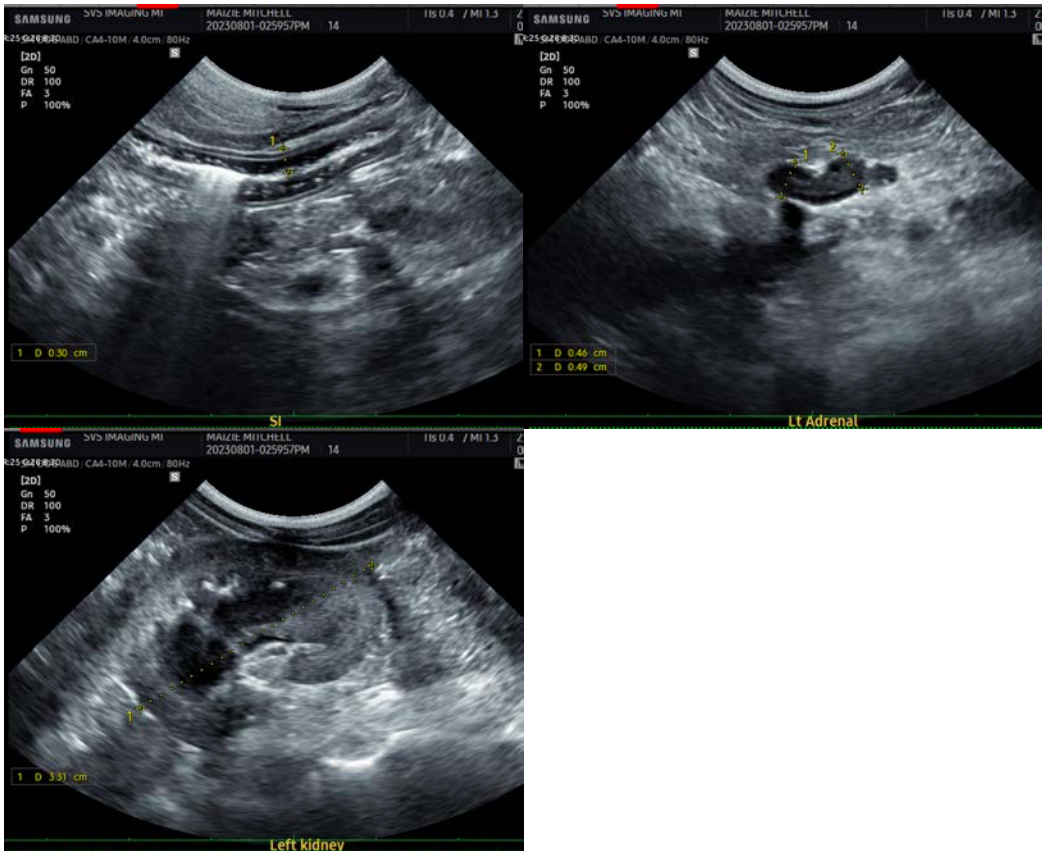

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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