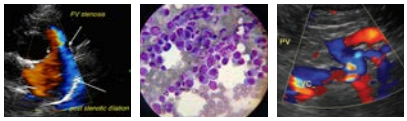
IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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DATE

4/4/23

PATIENT

Muffin Kocsan

SPECIES

Canine

BREED

Pomeranian

SEX

Spayed Female

AGE

4/21/11

WEIGHT

7.5 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Willer

INVOICE

46385

PRESENTING CLINICAL SIGNS

Discharge on 4/2/23- chronic history of pancreatitis and GI issues- on ultrasound in Dec 2022- concern for IBD- recommendations for biopsies owner has been trying to saved to go to the specialist- but symptoms continued to re-occur; had been on decreasing dose of steroids over the last month- had been on 1/4 tablet every 48 hours- when on 1/2 tablet once a day- no symptoms owner tried a hydrolyzed diet- but not able to get her to eat diarrhea resolved when hospitalized- had not had a bout for about 18 hours here; eating; no vomiting mild elevation in BUN- owner had elected to follow up with RDVM for follow up ultrasound and try to get to a specialist at home- not eating, dark colored stools, lethargy

Current Medications: sucralfate, maropitant,omeprazole,amoxicillin, proviable, metocloperamide, gabapentin
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

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. Additionally, there is a 0.35 cm cystoliths noted along the dependent wall. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses 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 pyelectasia or infarcts observed. Small non-obstructive nephroliths are noted bilaterally. The left kidney measured 3.68 cm. The right kidney measures 3.42 cm.

Adrenal Glands

The right adrenal gland is normal in size (1.63 cm long x 0.79 cm at the cranial pole and 0.60 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 (1.56 cm long x 0.55 cm at the cranial pole and 0.73 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). No focal nodules or masses are observed. 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.

Gallbladder is moderately distended with anechoic bile as well as moderate suspended and gravity dependent echogenic debris. Additionally, multiple shadowing cholecystoliths are noted. 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 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 diffusely mildly thick (upper end of normal thickness limits) up to 0.50 cm thick with subtle hyperechoic mucosal fogging or speckling noted. 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 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.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **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 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.

- **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.

- **Moderate gallbladder debris with multiple cholecystoliths -** 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.

ULTRASONOGRAPHIC FINDINGS

- Age related kidney changes with non-obstructive nephrolithiasis noted bilaterally

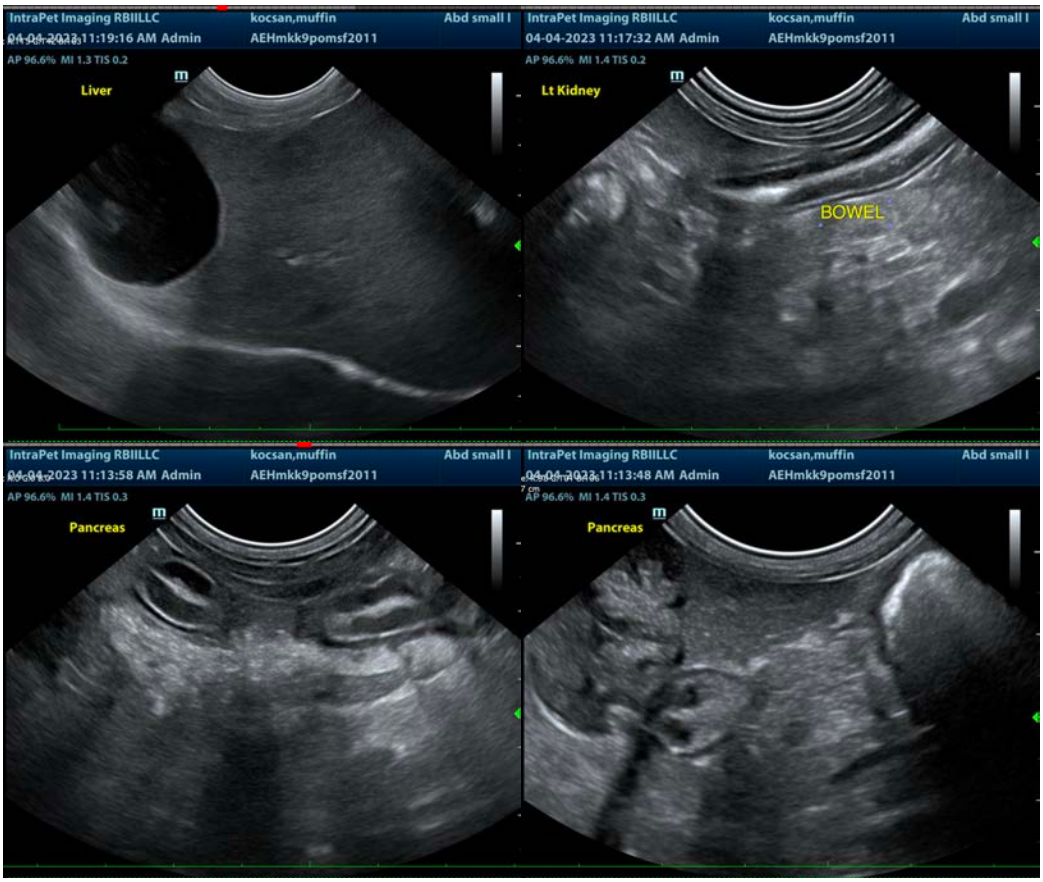
- Urinary bladder debris with a cystolith noted

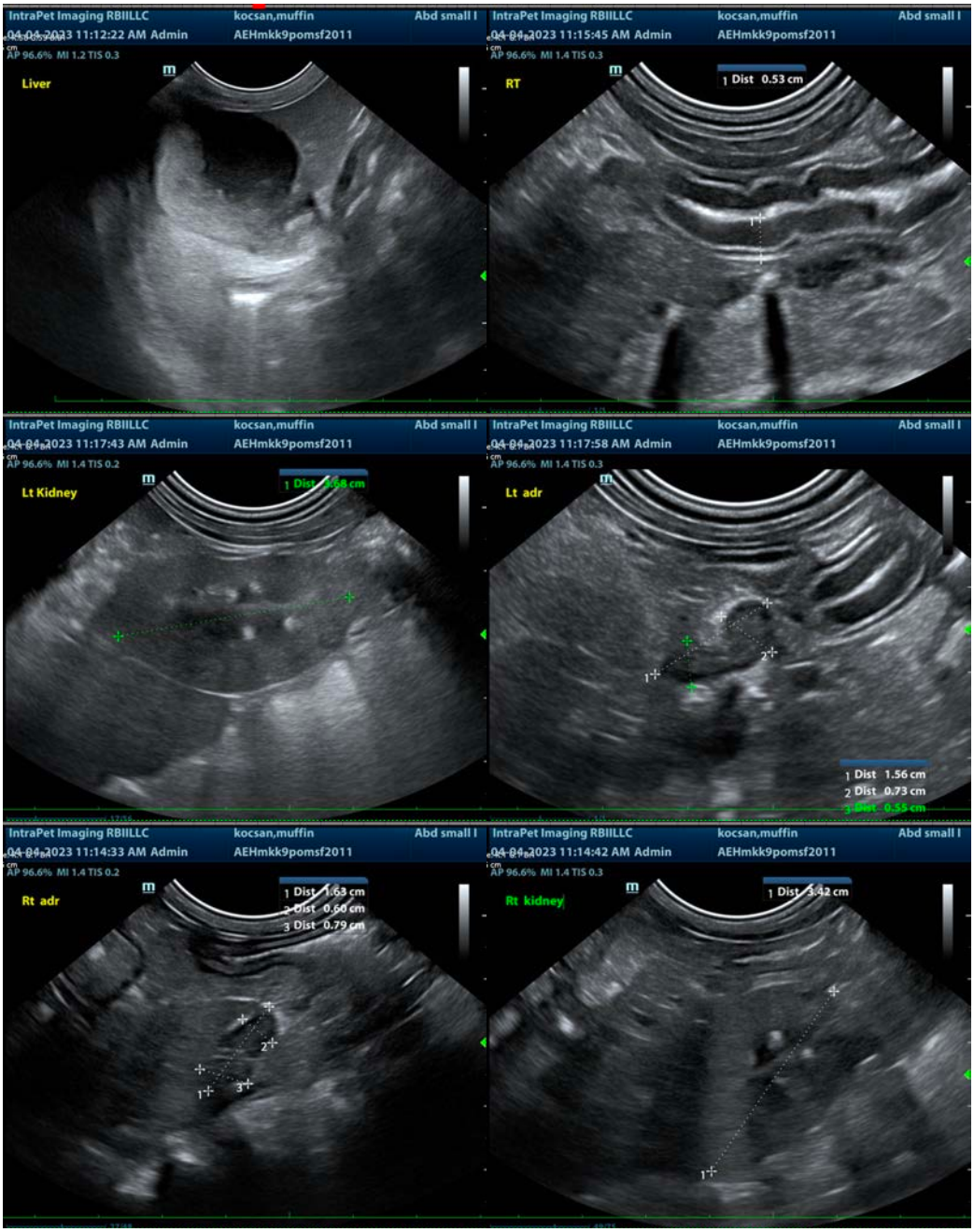
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

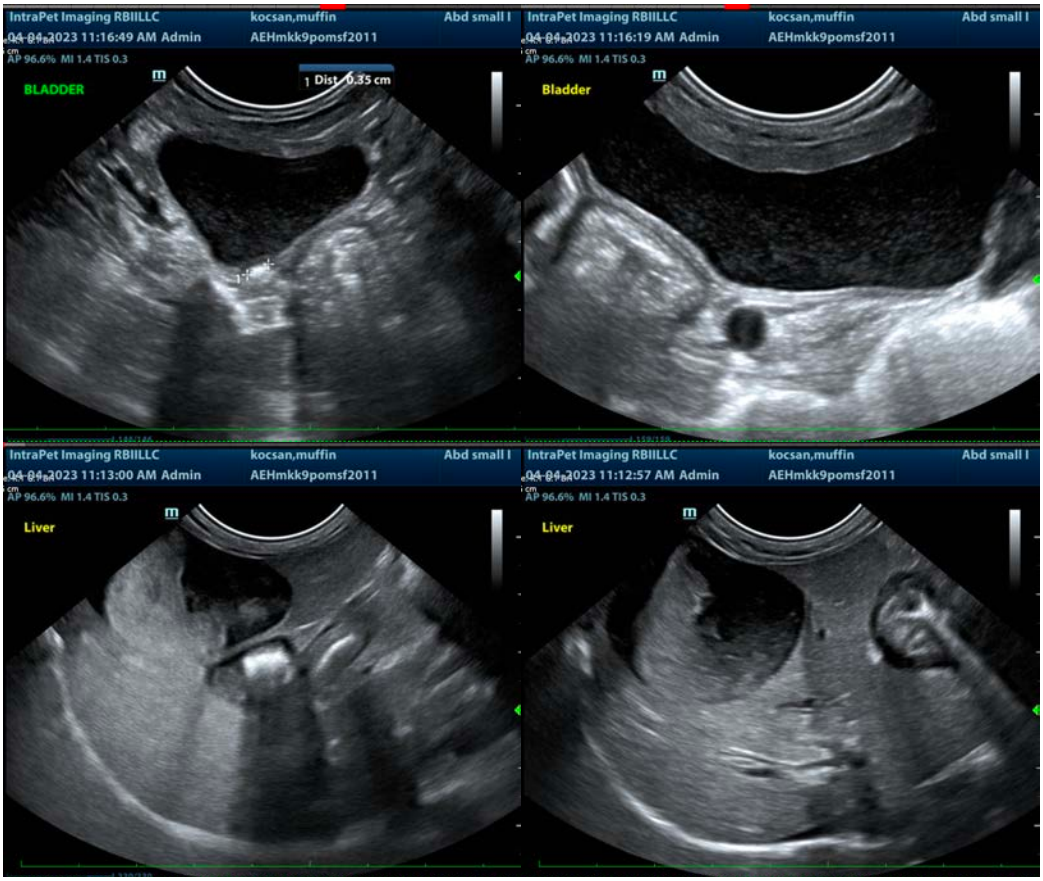
Given the subtle bowel changes, which may be partially masked by current steroid administration, as well as the pancreatic changes, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

In the meantime, empirical deworming with a 5-day course of Panacur is recommended. Given this patient's reported reluctance to eat the hydrolyzed prescribed, transition to a different brand or version of hydrolyzed diet could be considered, or alternatively a low-fat diet could be considered based on trial and error responses. Additionally, a probiotic such as Visbiome or Proviable could be considered for the reported diarrhea. Additionally, given this patient's gallbladder pathology, empirical management of cholecystitis with Ursodiol +/- Denamarin +/- broad-spectrum antibiotics (if antibiotics don't exacerbate gastrointestinal signs) could also be considered, especially if any of the suspected IBD clinical signs are nausea, decreased appetite, etc. versus just diarrhea. Gallbladder disease could be contributing to nausea, decreased appetite, etc.

Ultimately, as is reportedly being considered, gastrointestinal biopsies may be necessary for definitive diagnosis. However, best results will be obtained when patient has been off of steroids.




IntraPet Imaging RBIILLC
kocsan,muffin
Abd small I
AEHmkk9pomsf2011
Admin
Liver
RT
1 Dist 0.53 cm
Lt Kidney
Lt adr
1 Dist 1.56 cm
2 Dist 0.73 cm
3 Dist 0.55 cm
Rt adr
1 Dist 1.63 cm
2 Dist 0.60 cm
3 Dist 0.79 cm
Rt kidney
1 Dist 3.42 cm



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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