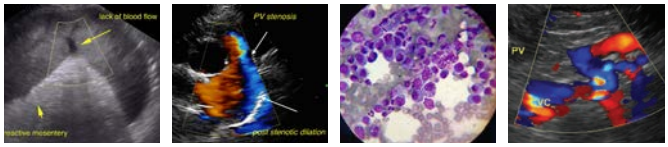
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Milo Brumley

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Neutered Male

AGE

11 Years

WEIGHT

19.86 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Dr. Dorris

HOSPITAL NAME

County Line VC

REFERRING VET

Dr. Dorris

INVOICE

45402

DATE

2/21/23

PRESENTING CLINICAL SIGNS

Milo Brumley is an 11 year old male neutered Schnauzer who presented 2/20 from weight loss of 5 lbs, lethargy and only eating treats. On physical exam, a new grade III left apical heart murmur was ausculted. His mucous membranes were light pink. His bloodwork revealed mild anemia with a HCT of 23.7%, ALP of 371 U/L and Tbili of 0.6 mg/dL and hypoalbuminemia of 1.9 g/dL. On radiographs of his chest, he had mild chronic bronchitis and compensated left heart disease. Radiographs of his stomach revealed cystolithiasis and potential hepatopathy. Milo has been very stable on IV fluids in hospital but remains mildly anemic and still lethargic, so ultrasound was elected.

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. Some mineral/sand debris is also present along the dependent wall. 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.

The prostate is unable to be visualized in these images.

The right kidney is normal in size (6.5 cm), shape and echogenicity. It has smooth peripheral margination. There some disruption of normal corticomedullary architecture caused by multifocal heterogeneous, primarily hypoechoic nodules. Additionally, small non-obstructive nephroliths are noted. There is no evidence of pyelectasia or infarcts observed.

The left kidney is normal in size (5.3 cm), shape and echogenicity. It has smooth peripheral margination. There some disruption of normal corticomedullary architecture caused by multifocal heterogeneous, primarily hypoechoic nodules. Additionally, small non-obstructive nephroliths are noted. There is no evidence of pyelectasia or infarcts observed.

Adrenal Glands

The adrenal glands are unable to be visualized in these images.

Spleen

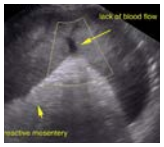
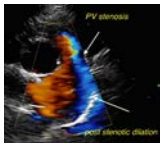
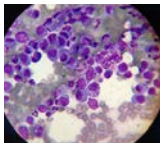
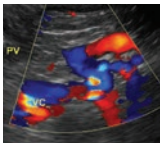
The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively moderately enlarged in size with markedly irregular margins. Parenchyma is mottled by multifocal irregular, hypoechoic nodules/masses of varying sizes (“moth eaten”). Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild 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.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Milo Brumley

SPECIES
Canine

BREED
Miniature Schnauzer

SEX
Neutered Male

AGE
11 Years

WEIGHT
19.86 Pounds

INTERPRETED BY
Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY
Dr. Dorris

HOSPITAL NAME
County Line VC

REFERRING VET
Dr. Dorris

INVOICE
45402

DATE
2/21/23

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 (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 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

- **Nodular Liver -** This finding is concerning for infiltrative disease such as round cell neoplasia or metastatic neoplasia. Benign disease (nodular hyperplasia) cannot be ruled out but is considered less likely.

- **Nodular kidneys** – This is also most concerning for infiltrative round cell neoplasia such as lymphoma.

SECONDARY FINDINGS

- **Urinary bladder debris including mineral/sand debris** – tiny accumulated cystoliths can't be ruled out.

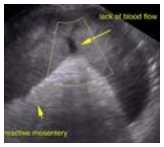
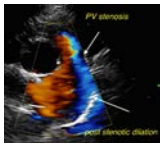
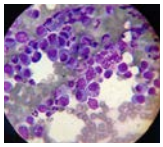
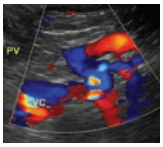
- **Mild gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Fine needle aspirates of the liver masses +/- the kidney nodules is recommended if patient's coagulation status is appropriate.

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Given the mild anemia, the concurrent mild hypoalbuminemia may be secondary to blood loss, potentially into some of the liver masses. However, concurrent urinary and/or GI loss are also high differentials. Therefore, if not recently evaluated, a urinalysis and, if indicated based on urinalysis

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

PATIENT

Milo Brumley

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Neutered Male

AGE

11 Years

WEIGHT

19.86 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Dorris

HOSPITAL NAME

County Line VC

REFERRING VET

Dr. Dorris

INVOICE

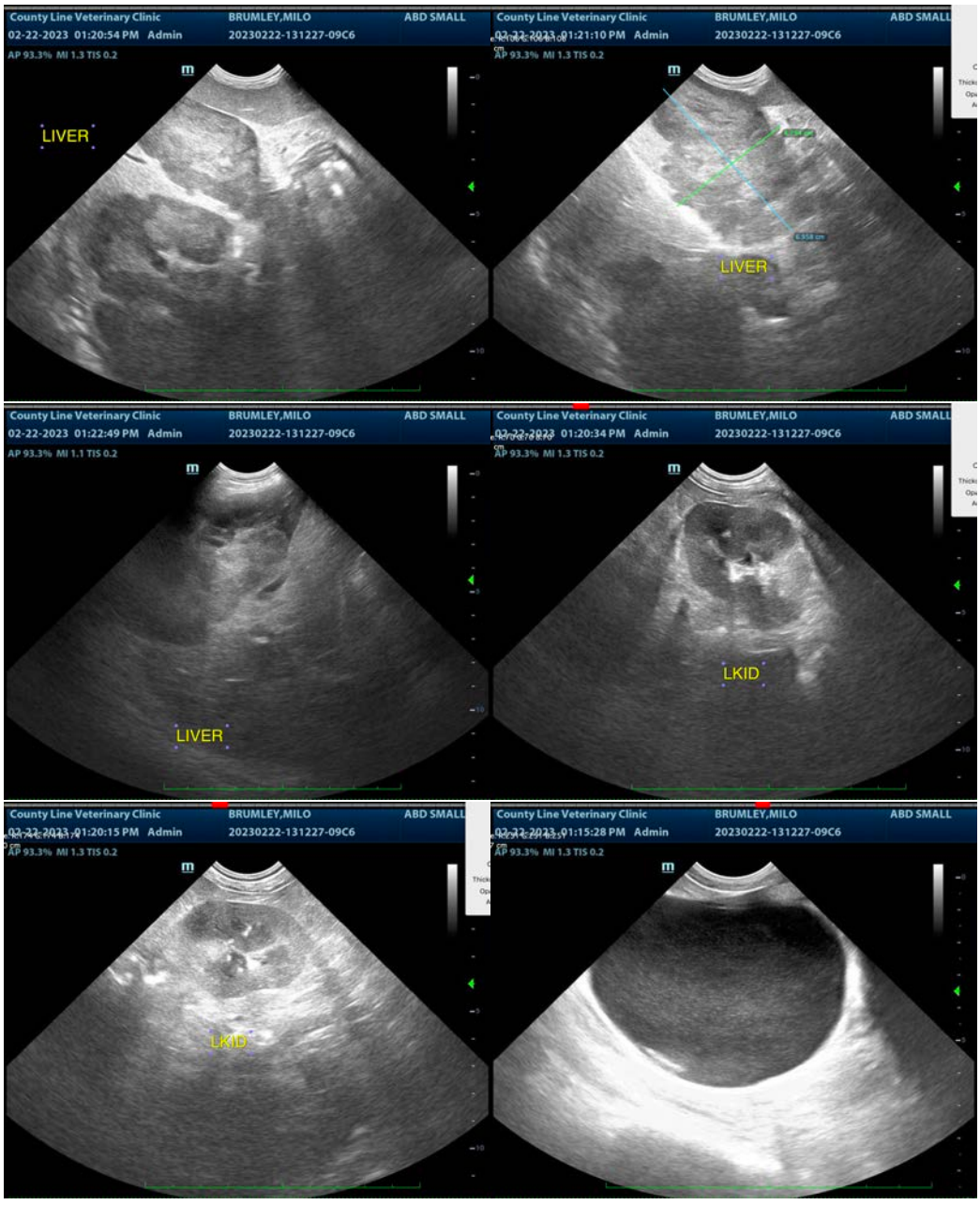
45402

DATE

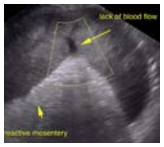
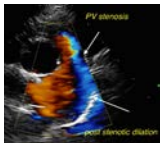
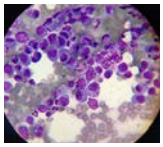
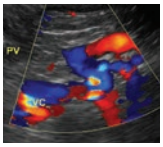
2/21/23

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.

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.



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Milo Brumley

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Neutered Male

AGE

11 Years

WEIGHT

19.86 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Dorris

HOSPITAL NAME

County Line VC

REFERRING VET

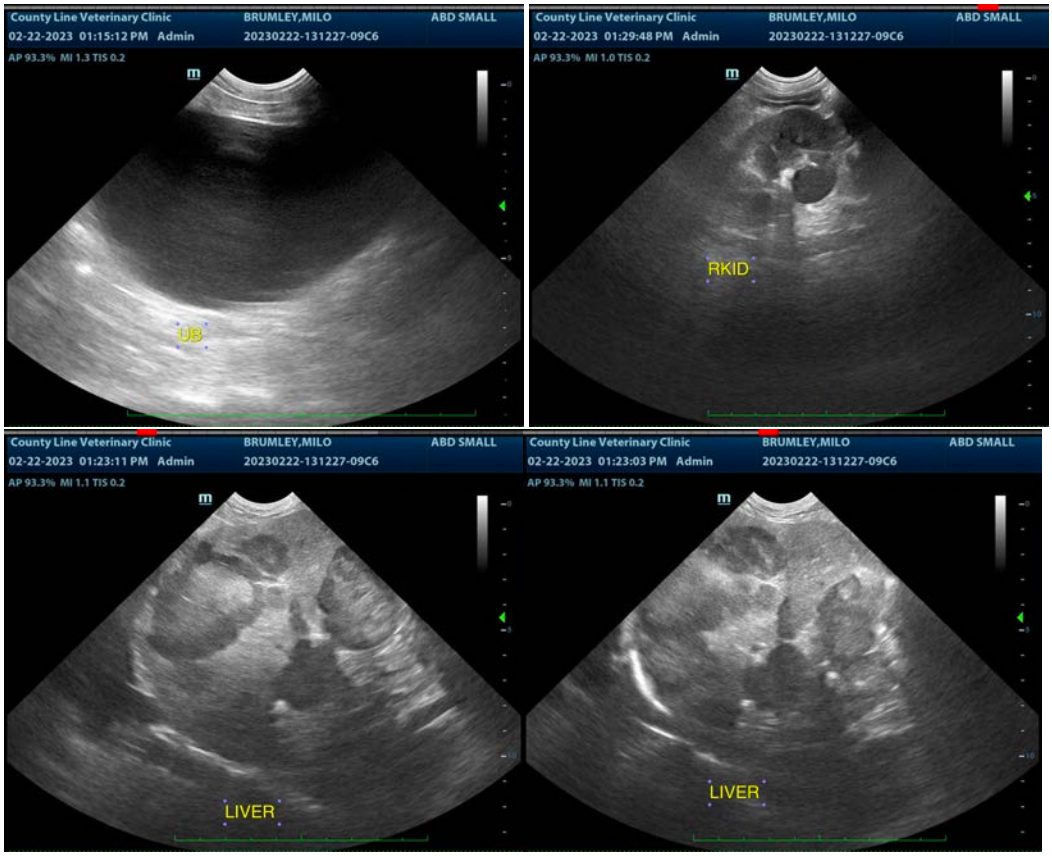
Dr. Dorris

INVOICE

45402

DATE

2/21/23



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