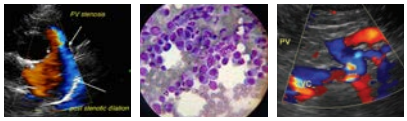
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
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DATE

1/18/23

PATIENT

Elphie Pronobis

SPECIES

Canine

BREED

Bernese Mtn Dog

SEX

Spayed Female

AGE

1/9/20

WEIGHT

87 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Belvedere Vet Center

REFERRING VET

Dr. Moulder

INVOICE

44319

PRESENTING CLINICAL SIGNS

Hematuria for ~5 days. Variable amounts of blood in urine. Accidents in house along with straining and increased frequency of urination.

Current Medications: Simplicef 200mg SID for 4 days, Rimadyl 75mg BID for 4 days.
Lab Results: Slightly elevated SDMA, high normal Creatinine, Glucosuria, proteinuria, bilirubinuria, ketonuria, hematuria. No bacteria or crystals noted.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

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 are multiple shadowing cystoliths noted, with the largest measuring approximately 2.0 cm in size. 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 right kidney is normal in size (6.44 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. A faint hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal in size (5.68 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. A faint hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

The right adrenal gland is normal in size (3.02 cm long x 0.71 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 (2.63 cm long x 0.44 cm at the cranial pole and 0.56 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

The liver is subjectively small 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.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

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.

The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

PRIMARY FINDINGS

- Urinary bladder debris with multiple (2-3+) cystoliths, with the largest measuring approximately 2.0 cm in size.

- **Faint bilateral medullary rim sign -** This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

- **Subjectively small liver –** This may be a normal patient variant. However, this can also occur with chronic end stage liver disease, or in a young patient such as this, a vascular anomaly. This finding should be interpreted in combination with supporting laboratory changes.

SECONDARY FINDINGS

- **Reactive mesenteric lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely. This is likely a normal variant in a young patient.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

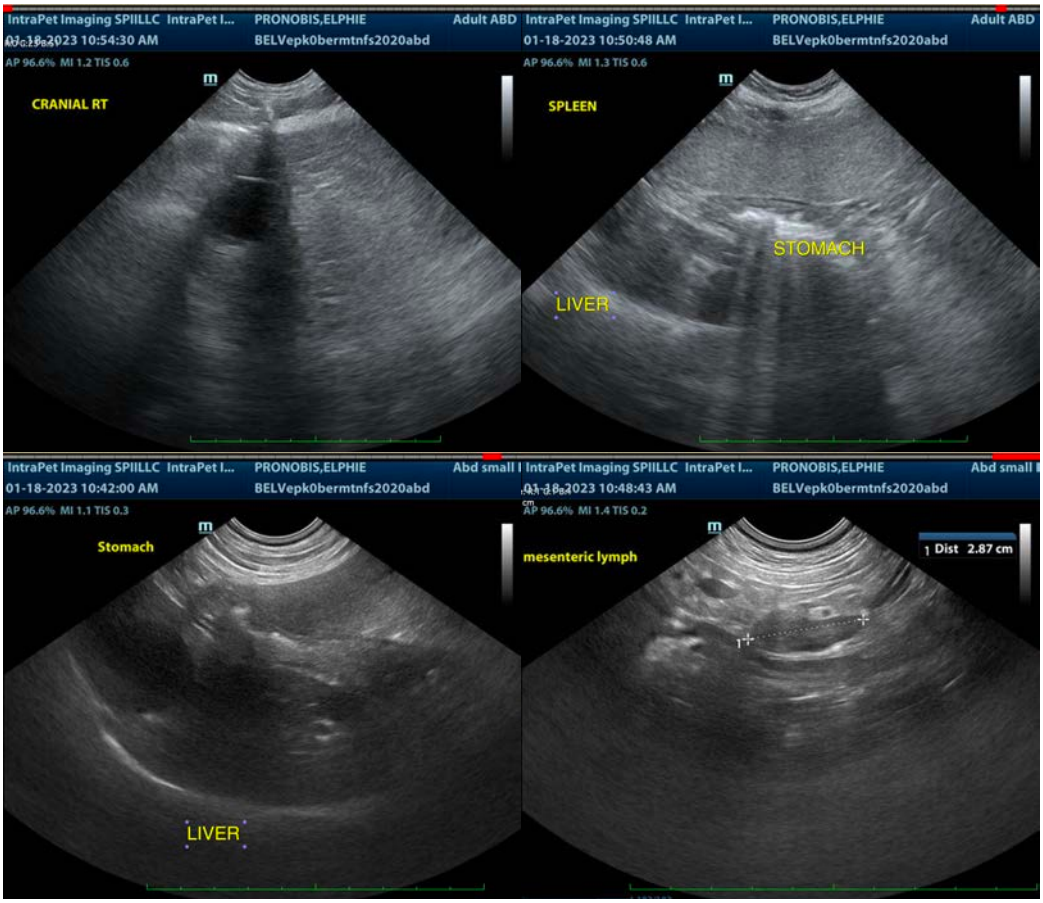
This patient's clinical signs and urinalysis results may primarily be the result of the reported cystoliths. However, given the concurrent glucosuria without hyperglycemia, combined with the subtle kidney and liver changes described above, concurrent kidney and/or liver disease can't be ruled out yet.

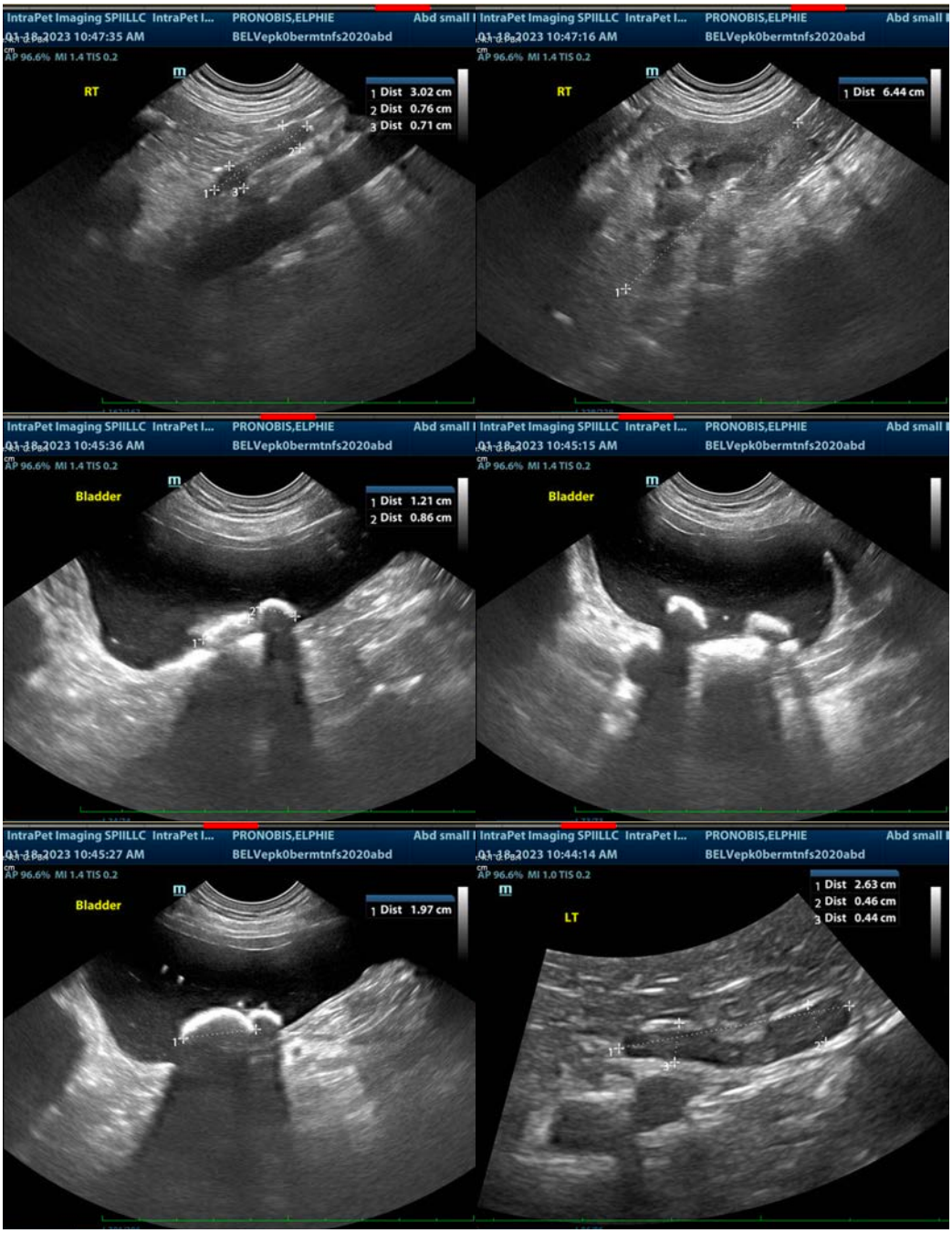
Recommendations include a urine culture if not recently evaluated, but the culture shouldn't be obtained until a week to 10 days after the patient has received antibiotics to prevent false negative result.

Bile acids are recommended.

Testing for Leptospirosis could be considered.

If the workup doesn't reveal a type of stone that may be amenable to dissolution, ultimately a cystotomy for stone removal and identification/analysis may be necessary. Recheck urinalysis after resolution of the cystolithiasis will help dictate long term workup, diagnostic, and treatment recommendations.




IntraPet Imaging SPIILLC IntraPet I... PRONOBIS,ELPHIE Abd small I
01-18-2023 10:47:35 AM BELVepk0bermtnfs2020abd
AP 96.6% MI 1.4 TIS 0.2
RT
1 Dist 3.02 cm
2 Dist 0.76 cm
3 Dist 0.71 cm
IntraPet Imaging SPIILLC IntraPet I... PRONOBIS,ELPHIE Abd small I
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RT
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Bladder
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Bladder
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01-18-2023 10:44:14 AM BELVepk0bermtnfs2020abd
AP 96.6% MI 1.0 TIS 0.2
LT
1 Dist 2.63 cm
2 Dist 0.46 cm
3 Dist 0.44 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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