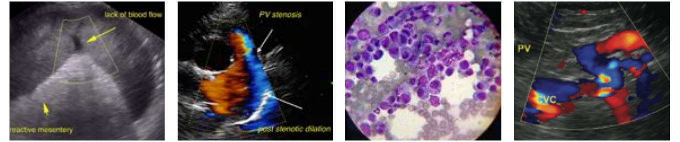


SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT
Lulu Johnston

SPECIES
Canine

BREED
Bichon

SEX
Spayed female

AGE
15 years

WEIGHT
6.3 kg

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Erin Wicks

HOSPITAL NAME
Shores VEC

REFERRING VET
Dr. Law

INVOICE
43342

DATE
3/17/23

PRESENTING CLINICAL SIGNS

History: Presented at our hospital for vomiting and black stool. O stated she took P to the RDVM yesterday because she was vomiting and having long, thin black stool. P was given, butorphanol, fluids, and O told to purchase simethicone. Upon coming home, P was drinking excessively and slept. Overnight O heard P retching, and this morning the stool turned to diarrhea. Previous Health Concerns: abdominal mass/cystitis/pancreatitis/hematuria @ Shores 11/24-27/22 Current Medications: one dose of simethicone yesterday Appetite/When did they eat last: last ate yesterday morning
Abnormal PE/Chem/CBC/UA Results: Lymphatics: Submandibular LNs enlarged 3/16/23 Rdvm bloodwork: ALT 210; BUN/UREA 35; Chol 359; HGB 22.2; MCHC 42.8; Mono 2.06; MCH 29.2; ALB/GLOB 1.0; BUN/Crea 39; Na/K 36 Rads: gas filled intestines, but width is WNL

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. Sand accumulation was noted. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

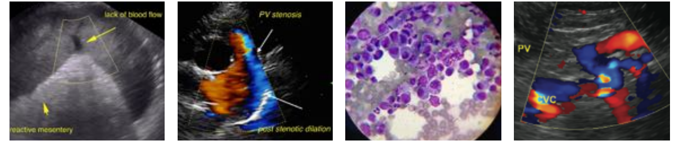
The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. Hyperechoic medullary rim sign and corticomedullary mineralization was noted. Pelvic mineralization was noted and non-obstructive. The right kidney measured 4.24 cm. The left kidney measured 4.19 cm.

Adrenal Glands

The **adrenal glands** appeared slightly enlarged and swollen. No evidence of focal capsular expansion or invasion into the phrenic veins was noted. No overt suspicion of neoplasia was noted. This is considered likely a hyperplastic change associated with stress or adrenal endocrinopathy (PDH). If isosthenuria is persistently present and the patient morphologically suggests Cushing's disease then ACTH testing would be indicated. The left adrenal gland measured 2.23 x 0.94 cm at the cranial pole and 0.9 cm at the caudal pole. The right adrenal gland measured 2.25 x 0.71 cm at the cranial pole and 0.7 cm at the caudal pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.



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Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Multi-focal, hypoechoic nodular changes were noted and measured up to 2.0 cm. Increased portal markings were noted. The gallbladder and common bile duct were unremarkable.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

Corticomedullary and pelvic mineralization.

Moderate age related renal changes.

Bilateral adrenal hypertrophy consider PDH/Cushing's

Age related pancreatic changes.

Hepatic nodules.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient has been passing calculi from the kidneys to the bladder. This was non-obstructive at the time of the sonogram. FNA of the hepatic nodules is recommended. Abscessation is possible. Treatment for enterotoxin, broad spectrum anti-parasitic protocol is indicated. FNA of the liver is indicated. There was no overt evidence of neoplasia; however, there is a mild potential for underlying hepatic neoplasia depending on FNA results.

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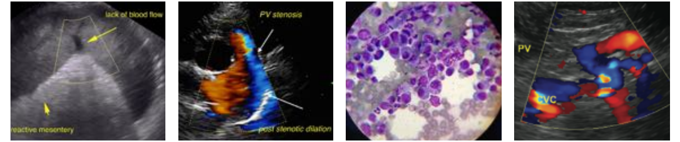
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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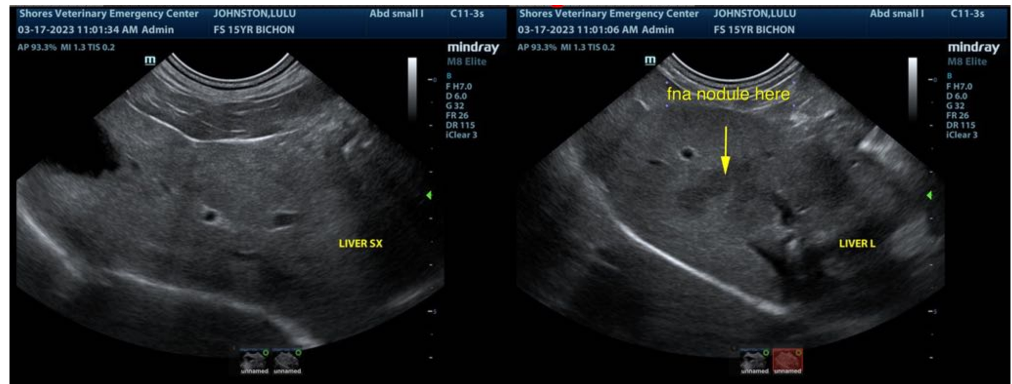

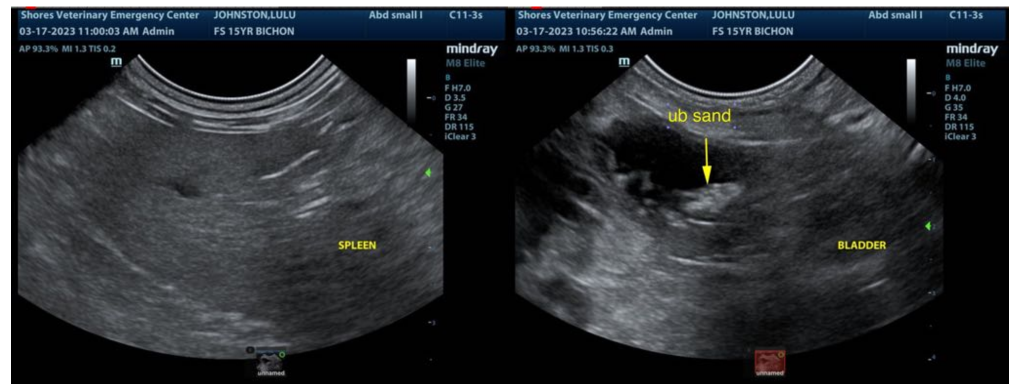

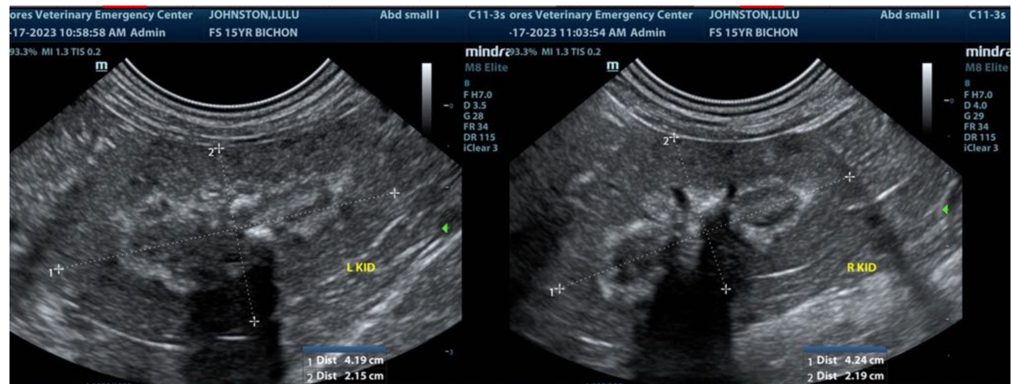

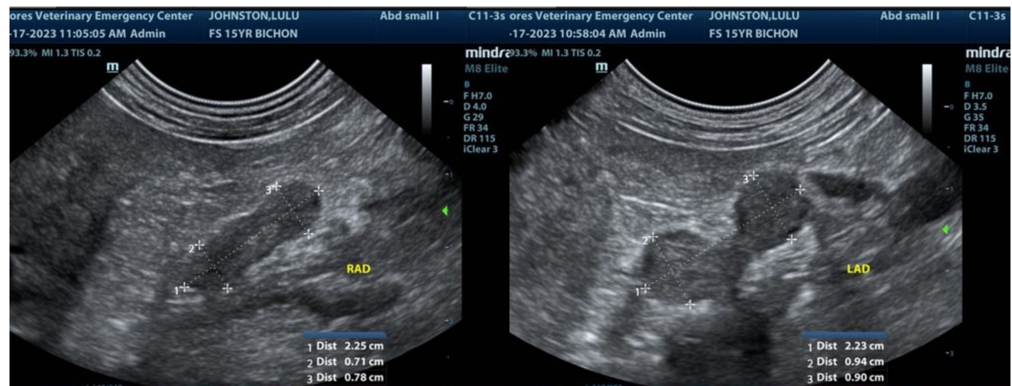

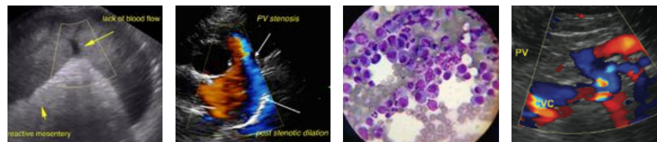

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com