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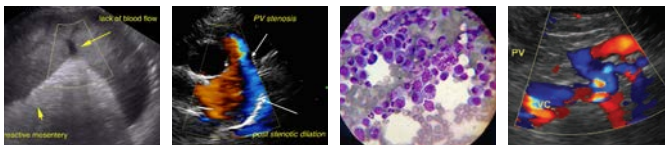

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1-800-838-4268 info@sonopath.com

PATIENT
Riley Keetch

SPECIES
Canine

BREED
Shih Tzu

SEX
Neutered Male

AGE
11 Years

WEIGHT
5.3 kg

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Nigel Gumley

HOSPITAL NAME
Cedarview AH

REFERRING VET
Dr. Nigel Gumley

INVOICE
44378

DATE
1/19/23

PRESENTING CLINICAL SIGNS

Shaking, seems uncomfortable, dry cough, lethargy; appetite ok.

Abnormal PE/Chem/CBC/UA Results: Grade 3/6 systolic heart murmur; consolidated area of thorax with calcified regions in right ventral thorax. Peribronchial pattern in remaining lungs. Leukocytosis with mature neutrophilia, hypoglycemia, mild hyperglobulinemia, increased lipase and amylase.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses or inflammatory changes. A 1.0 cm shadowing cystolith is present within the urinary bladder, as well as smaller cystoliths present throughout the urethra, including a 0.30 cm urethrolith within the intraprostatic urethra. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

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. Multiple bilateral cortical cysts noted, the largest of which measures 1.3 cm x 2.0 cm in the cranial pole of the left kidney. Non-obstructive areas of mineralization/nephroliths are noted in both kidneys. The left kidney measures 4.4 cm with pyelectasia 0.28 cm in the transverse view. The right kidney measures 4.8 cm with pyelectasia at 0.26 cm in the transverse view.

Adrenal Glands

The right adrenal gland is normal in size (0.55 cm at the cranial pole and 0.46 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 (0.60 cm at the cranial pole and 0.51 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively large in size with normal smooth margins. Parenchyma is normal in echogenicity with a coarse/heterogenous echotexture. Multifocal well demarcated hyperechoic homogeneous nodules are noted throughout the spleen. Splenic vasculature appears normal.

Liver

Liver is relatively normal in size and contour. Parenchyma is mildly heterogenous and coarse with mild likely age-related parenchymal remodeling noted. A 1.2 cm x 1.4 cm cystic lesion is noted in the liver, adjacent to the stomach. Visible vasculature and biliary tree appear normal without distension or congestion.

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

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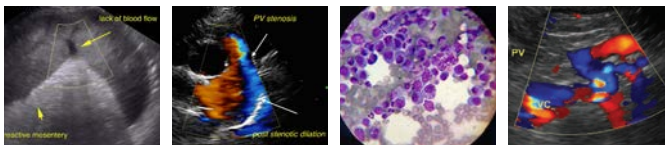

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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is mildly fluid distended 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 observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. 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.

Ringdowns are present at the level of the diaphragm.

PRIMARY FINDINGS

- **Coarse splenomegaly –** can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.
- **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.
- **Cystic lesion in the liver** – Trends in appearance towards benign.
- **Ringdowns** – suggestive of pulmonary pathology, which is consistent with this patient's history.

SECONDARY FINDINGS

- Urinary bladder cystoliths including small cystoliths within the urethra
- **Age related kidney changes with bilateral cortical cysts, bilateral mild pyelectasia, and bilateral non-obstructive small nephroliths** – Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.
- **Pancreatic age-related remodeling –** Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

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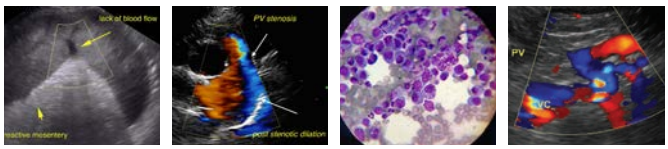

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

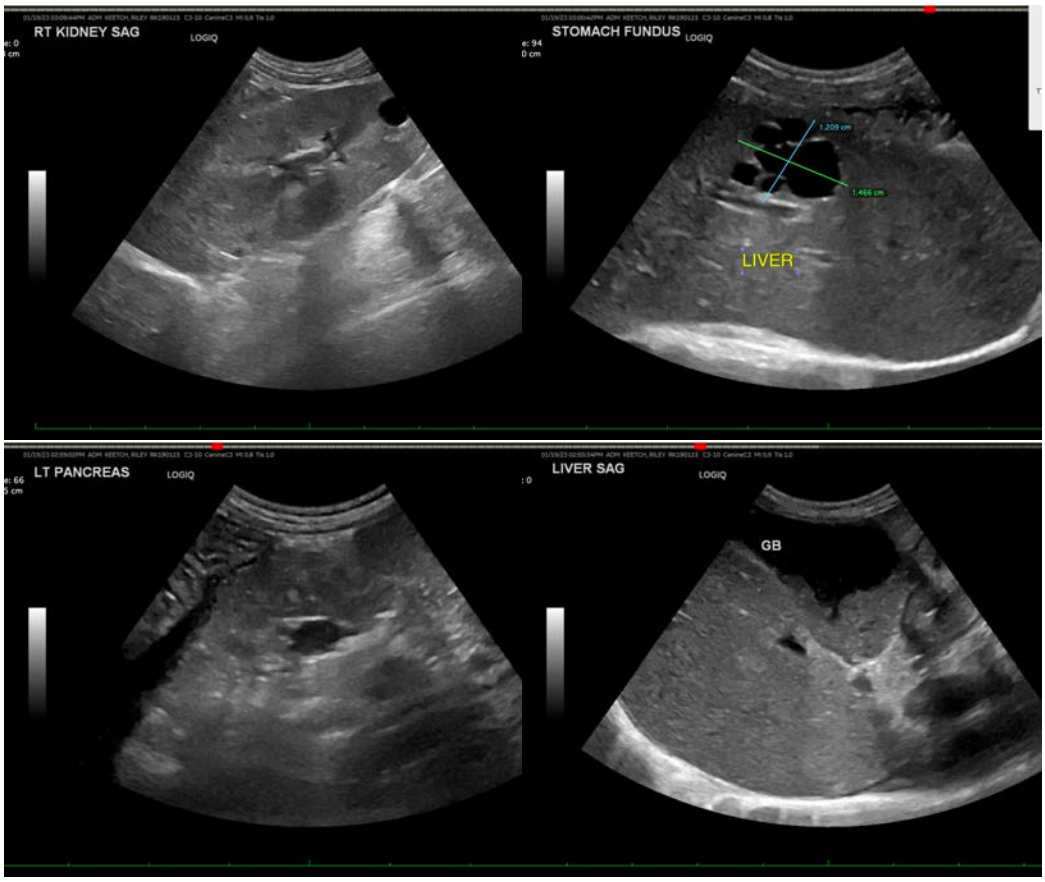
Overall, this is a pretty unremarkable age related ultrasound without an evident cause or primary lesion to describe the reported pulmonary nodule/lesion.

Recommendations include further evaluation of the pulmonary lesion via either a thoracic CT scan or potentially fine needle aspirate of the lesion if appropriate based on radiographic interpretation and if patient's coagulation status is appropriate.

If not recently evaluated, a urinalysis and, if indicated based on urinalysis 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.

If the pulmonary lesion is determined to be a metastatic lesion, additional evaluation of the non-specific splenic lesions could be evaluated with a fine needle aspirate of the spleen as well, if patient's coagulation status is appropriate.

Additionally, given this patient's reported discomfort, if there is any pollakiuria, stranguria, or pain when urinating, the cystoliths could be more of a significant problem as well, in which case removal may be warranted.



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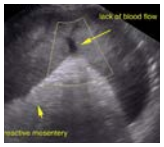
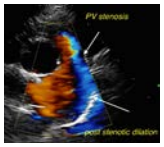
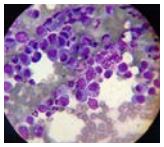
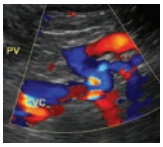

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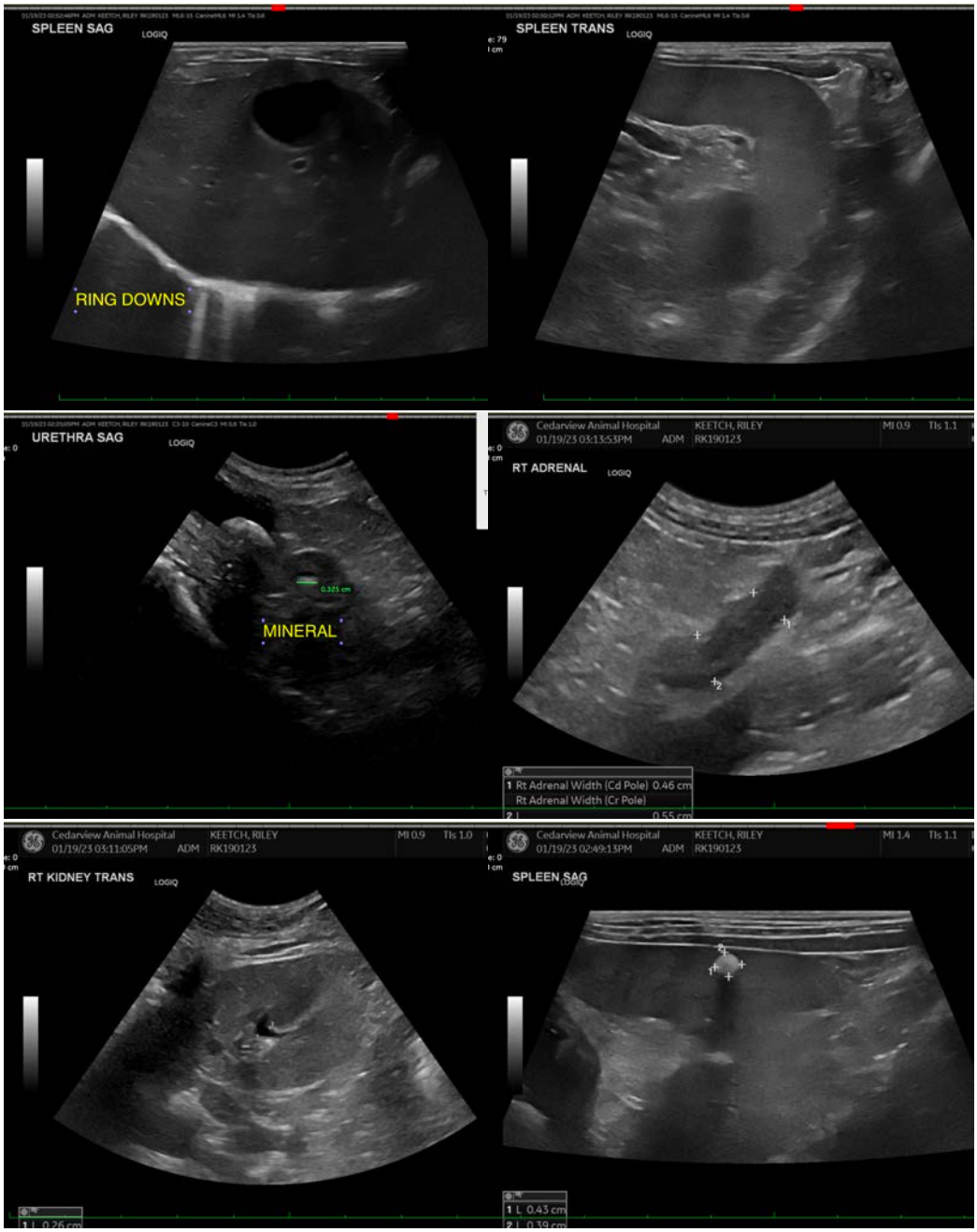

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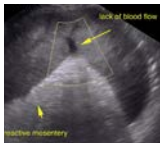
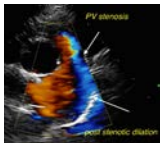
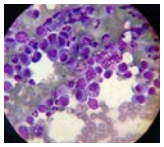
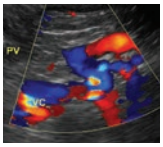

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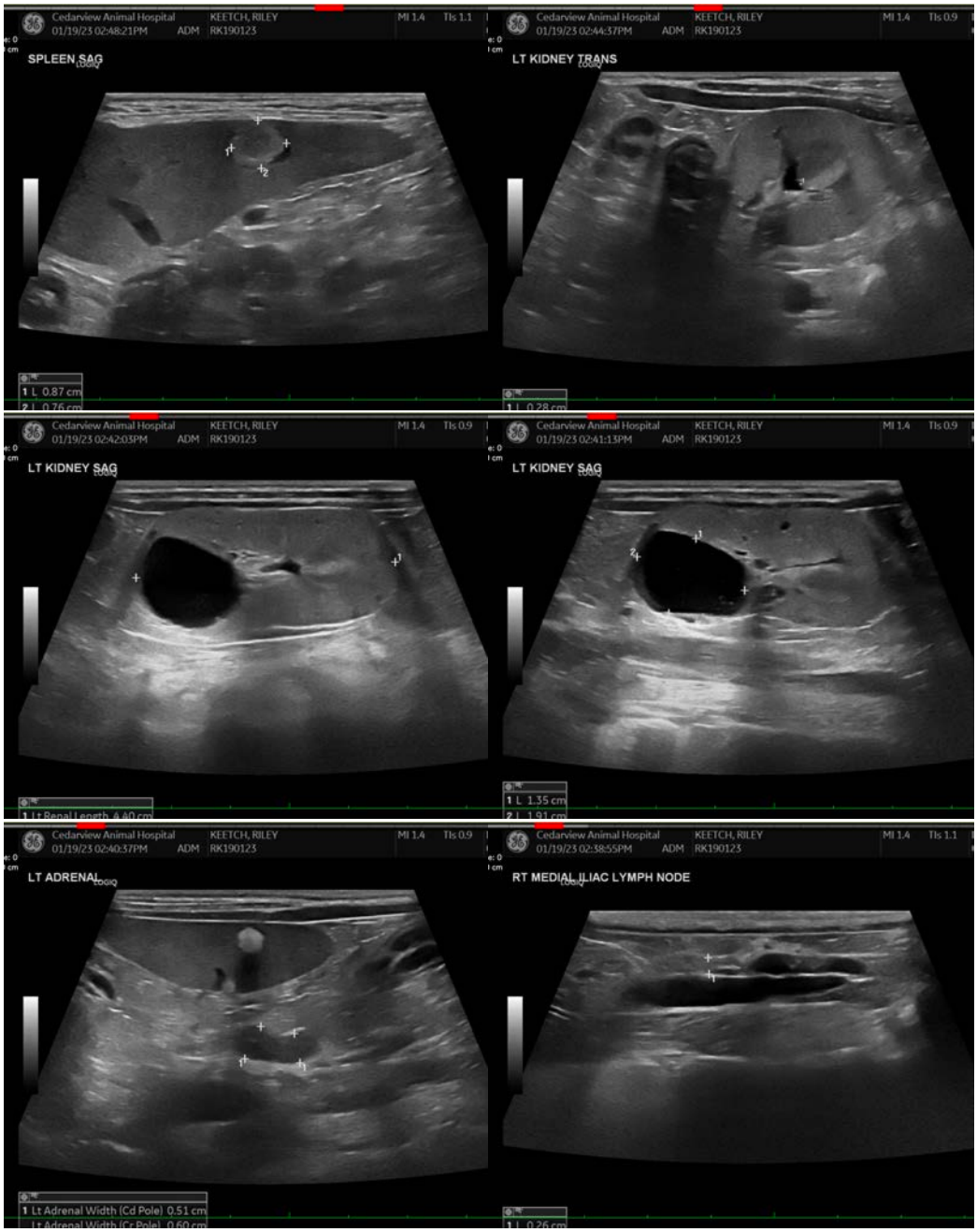

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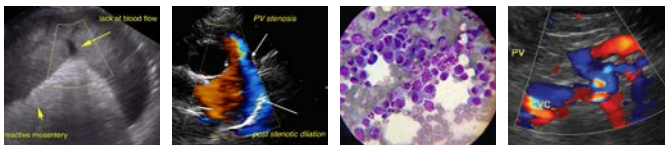

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Beth.Johnson@sonopath.com