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Clinical Sonography & Telecytology
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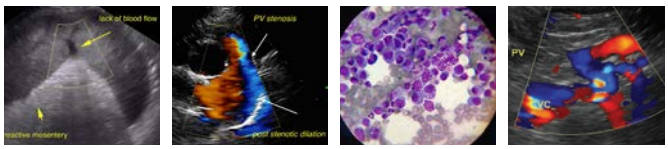

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1-800-838-4268 info@sonopath.com

**PATIENT**
Okemo Karcher

**SPECIES**
Canine

**BREED**
Husky X

**SEX**
Neutered Male

**AGE**
13

**WEIGHT**
30 kg

**INTERPRETED BY**
Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**
Haley Harasimowicz

**HOSPITAL NAME**
Waterbury Vet Hospital

**REFERRING VET**
Dr. Emily Crawford

**INVOICE**
44816

**DATE**
2/7/23

## PRESENTING CLINICAL SIGNS

Geriatric dog presented for wellness visit. Dog is hypothyroid and is on thyroid supplementation chronically. Dog has severe multifocal osteoarthritis and has also been on chronic NSAIDs (Meloxicam). Owner reports dog has been hesitant to eat and generally not as interested in food in last several months. No GI signs, no significant change in water intake or urinations. Ultrasound to evaluate kidneys. Other dog in home recently died: had significant renal disease and owner wishes to be proactive to rule out any major issues.

Abnormal PE/Chem/CBC/UA Results: Labwork reveals azotemia: creat 1.6, BUN 32, ALP 342, other liver values wnl. USG is 1.023 and borderline proteinuria UPC 0.4 CBC is wnl 4dx is all neg (has had Lyme snap + in past). Blood pressure is high normal, dog very nervous in hospital so suspect it is in fact wnl.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. 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 normal in size and contour. A relatively uniform hyperechogenicity is observed with mildly decreased corticomedullary distinction. There is no pyelectasia noted and no mineral is observed. No overt masses/nodules are observed. The left kidney measures 6.2 cm. The right kidney measures 6.7 cm.

### *Adrenal Glands*

The right adrenal gland is normal in size (1.5 cm at the cranial pole and 1.0 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 (1.0 cm at the cranial pole and 0.86 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

### *Spleen*

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. 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. No focal lesions are observed. 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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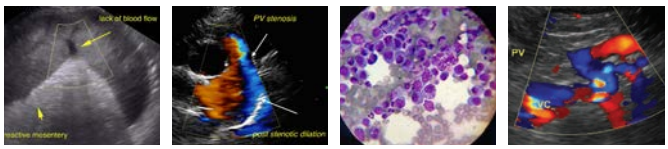

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### *Gastrointestinal*

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is 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

- **Nephritis –** This appearance can be consistent with chronic interstitial nephritis or glomerulonephritis. Toxic insult and/or infectious disease (pyelonephritis, Leptospirosis, etc.) cannot be ruled out. This finding should be interpreted in combination with suspicion for renal disease and/or supporting laboratory or urinalysis changes. **This change is subtle/mild.

## SECONDARY FINDINGS

- **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.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's mild azotemia, mild proteinuria, and mild hypertension, the mild visual changes associated with the kidneys may be significant, and testing for Leptospirosis is recommended. This change may be contributing to decreased appetite, in which case supportive/symptomatic medical management of a possible secondary uremic gastritis or nausea related to the new azotemia, etc. with antiemetics, gastroprotectants, and appetite stimulants could be considered. However, it is not typical to see clinical signs with this mild level of disease.

Other differentials for this patient's decreased appetite include hypothyroidism (so making sure the reported hypothyroidism is well controlled), and/or occult gastrointestinal disease, so a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory could be considered. Ultimately, however, if a cause cannot be determined, behavioral change/potential depression associated with recent loss of housemate could also be contributing, in which case supportive care, appetite stimulants, etc. may be the best course of action. Regardless, close monitoring of the kidney values, proteinuria, and the mild hypertension is recommended to catch progression that may change the treatment plan.

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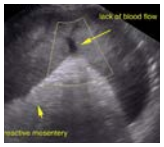
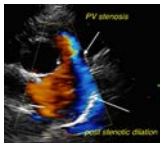
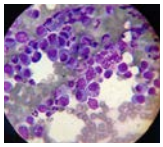
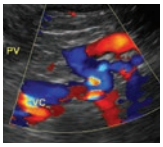

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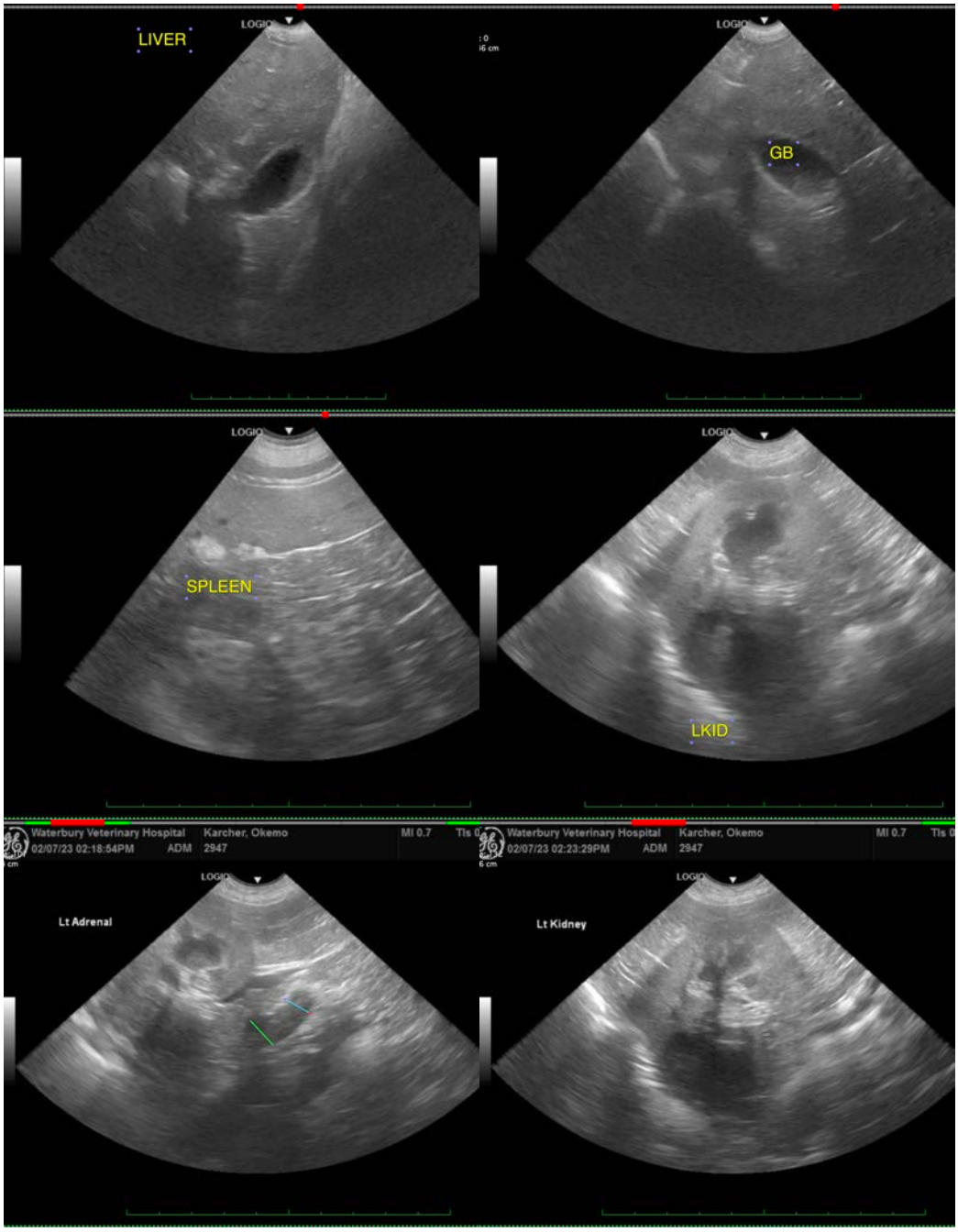

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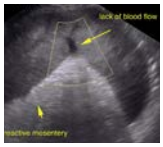
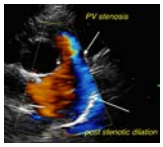
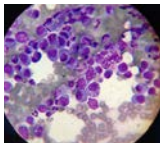
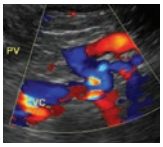

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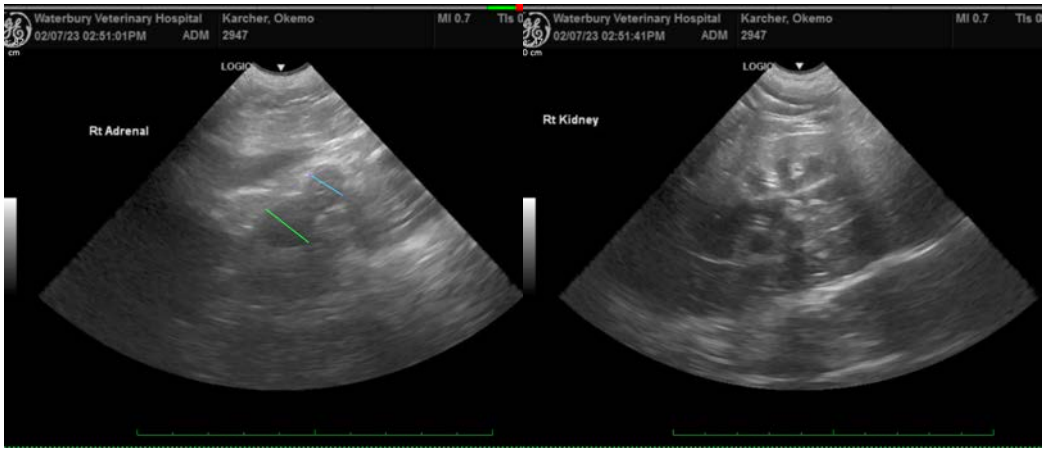


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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