



**PATIENT**

Gizmo Zart

**SPECIES**

Canine

**BREED**

Yorkie X

**SEX**

Neutered Male

**AGE**

7 Years

**WEIGHT**

8.8 Pounds

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING PERFORMED BY**

Rachel Runnells, RVT

**HOSPITAL NAME**

SVS Imaging Kansas  
City

**REFERRING VET**

Dr. Erin Miller

**INVOICE**

26362

**DATE**

10/19/21

**PRESENTING CLINICAL SIGNS**

PU/PD, eating well, normal BM, no vomiting seen, episodes of lethargy, head pressing, staring, drooling. Abnormal PE/Chem/CBC/UA Results: Albumin 2.4 (2.7-4.4), AST 73 (15-66), ALT 188 (12-118), ALP 173 (5-131), Creatinine 0.3 (0.5-1.6), Glucose 61 (70-138), Calcium 8.8 (8.9-11.4), Amylase 173 (290-1125), WBC 25.8 (4.0-15.5), MCH 17.5 (19-28), Neutrophils 19608 (2060-10600), Monocytes 1806 (0-840), rest WNL

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen. Mild dependent focal to multifocal areas of mineral were present. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The residual prostate was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with subtle increased corticomodullary parenchyma echogenicity and focal areas of non-obstructive medullary mineral. No evidence of pelvic dilation was present. The left kidney measured 4.6 cm. The right kidney measured 5.2 cm. A small cortical cyst was present in the right kidney.

The area of the aortic trifurcation was free of pathology.

**Adrenal Glands**

The adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.53 cm at the cranial pole and 0.63 cm at the caudal pole. The left adrenal gland measured 0.44 cm at the cranial pole and 0.49 cm at the caudal pole.

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

**Liver**

The liver exhibited overall subnormal size with maintained symmetrical contour and uniform parenchyma. The hepatic parenchyma exhibited mild generalized increased echogenicity with mild coarse echotexture. The gallbladder was sonographically unremarkable with anechoic content, yet appeared to be enlarged compared to the subnormal liver.

**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.



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**Pancreas**

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The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**SPECIES**

Canine

**ULTRASONOGRAPHIC FINDINGS**

- Subnormal liver size
- Mild dependent urinary bladder mineral
- Non-obstructive renal medullary mineral with right kidney cortical cyst

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Yorkie X

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**SEX**

Neutered Male

Given the patient's clinical signs, lab work abnormalities, and subnormal liver size with both renal and urinary bladder mineral, portosystemic vascular anomaly is strongly suspected and considered a primary differential diagnosis, although not definitively evident in this study. Alternative considerations may include primary hepatic parenchymal disease or portal hypoplasia/microvascular dysplasia. Correlation with fasting and post-prandial bile acids may be considered. Urine culture and sensitivity on sterile urine sample to rule out underlying infection is suggested. Referral for further assessment, which may include gold standard CT with contrast, should be considered. Monitoring of glucose levels is recommended with potential for supplementation if clinically indicated.

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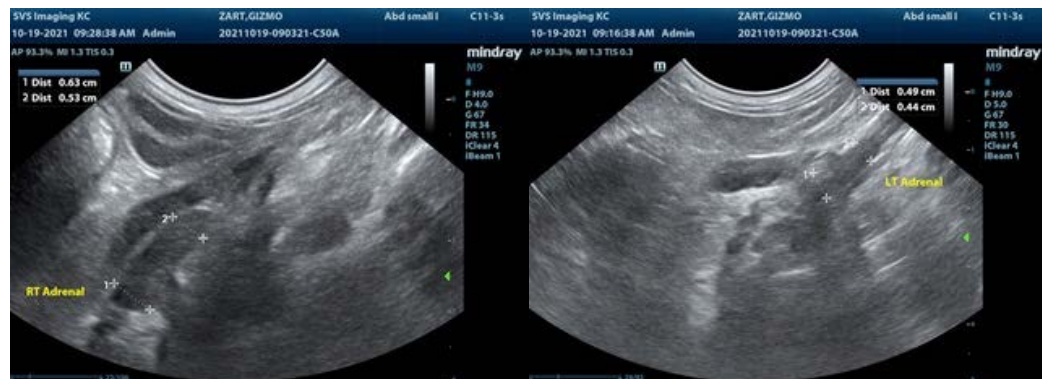
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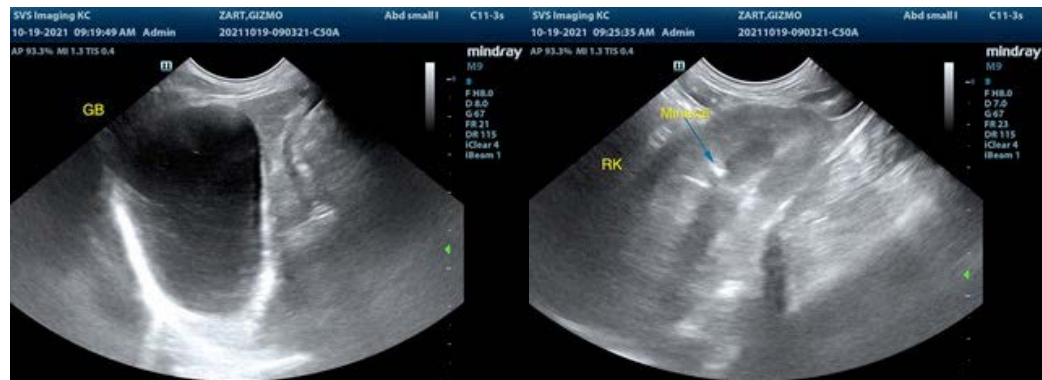
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com