



**PATIENT**

Desi Rodriguez-Perez

**SPECIES**

Canine

**BREED**

Maltese

**SEX**

Neutered Male

**AGE**

9 Years

**WEIGHT**

6.8 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Shari Reffi, CVT

**HOSPITAL NAME**

Westwood RVH

**REFERRING VET**

Dr. Giammanco

**INVOICE**

14840

**DATE**

4/22/22

**PRESENTING CLINICAL SIGNS**

History: Azotemia (renal dz), assess renal architecture. Current meds: Started IVF, Cerenia, Famotidine, Unasyn, Azodyl, Epakitin on 4/21

Abnormal PE/Chem/CBC/UA Results: BUN 66, Creat 2.9, Phos 7.8, u/a pending.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted. Aortic trifurcation was normal.

The residual prostate was normal in size and sonographically unremarkable without overt pathology, measuring 0.5 cm in diameter.

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 some increased echogenicity and mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Potential for cortical microinfarctions possible. Minor pyelectasia and pinpoint medullary mineral present, associated with both kidneys. The left kidney measured 3.1 cm in length. The right kidney measured 3.9 cm in length.

*Adrenal Glands*

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.4 cm in length x 0.49 cm width at the caudal pole.

The right adrenal gland was mildly prominent in size. The right adrenal gland exhibited capsule integrity without evidence of parenchymal escape or vascular invasion. The right adrenal gland measured 1.6 cm in length x 0.68 cm width in the caudal pole.

*Spleen*

The spleen exhibited mild generalized enlargement. Multiple, variably sized to expansive nonhomogeneous macronodules to small masses were present in the spleen. An example of splenic macronodule to small mass measured 2.0 in the caudal spleen and 1.6 cm in diameter in the mid cranial spleen, respectively.

*Liver*

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. Several to multiple variably sized nonhomogeneous subjective mid to right intraparenchymal macronodules to small masses. An example of macronodule to small mass adjacent to the gallbladder measured 2.9 cm. An example of macronodule or small mass deep ventral liver measured 2.0 cm.

The gallbladder was non distended in size with primarily anechoic content with mild luminal debris. The cystic duct and common bile ducts were normal without evidence of dilation.

*Gastrointestinal*



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The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact yet mildly prominent wall layering was noted. The lumen was empty.

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Canine

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. Intermittent duodenojejunal mucosal speckling noted.

**BREED**

Maltese

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

***Pancreas***

The left limb, right limb, and base of the pancreas presented hypoechoic to heterogeneous echogenicity compared to adjacent omental fat. Mild asymmetrical capsule margination was present with mild variable parenchymal swelling and mild peripancreatic reactivity / inflammation. No overt evidence of neoplasia.

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Neutered Male

***Free Abdomen***

Small pockets of scant peritoneal free fluid were present. Generalized reactive mesentery noted.

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**ULTRASONOGRAPHIC FINDINGS**

- Mild to moderate chronic renal changes with suspect cortical microinfarctions and mild pyelectasia
- Mildly prominent to nonhomogeneous right adrenal gland- nonspecific, patient or age-related variant, benign hyperplasia, indistinct adenomatous change suspected. Emerging potential for right adrenal neoplasia (i.e., adenocarcinoma, pheochromocytoma or other).
- Multifocal nonspecific hepatosplenic macronodules to small masses
- Low-grade to chronic active pancreatitis pattern
- Gastroenteritis- potential uremic gastroenteritis
- Scant peritoneal free fluid and generalized reactive mesentery

**WEIGHT**

6.8 Pounds

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The hepatosplenic macronodules to small masses are nonspecific with multiple etiologies, including hyperplasia (liver and spleen), hematopoiesis (spleen), granulomas (liver and spleen), neoplasia (liver and spleen) with potential for mixed macronodule etiologies.

Assuming normal clotting status, ultrasound guided FNA of the liver and spleen, using 25-gauge needles, warranted for screening cytology. Pending urinalysis, further renal staging to include urine culture and sensitivity and baseline UPC, as well as monitoring of systemic blood pressure recommended.

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Gastric protectant protocol suggested if evidence of inappetence, vomiting, etc. Sonographic monitoring of the hepatosplenic macronodules to small masses, as well as the right adrenal gland would be a more conservative approach.

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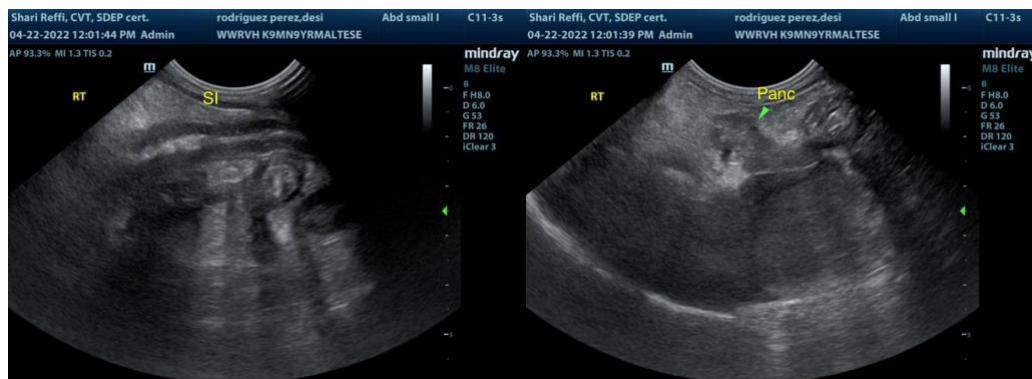
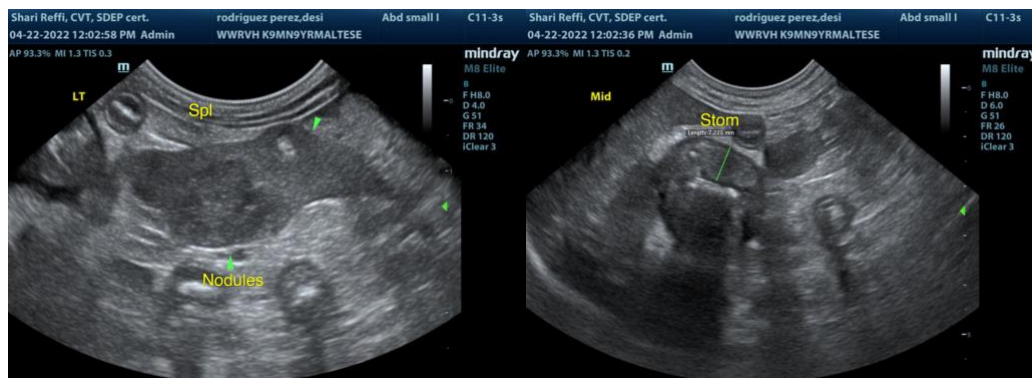
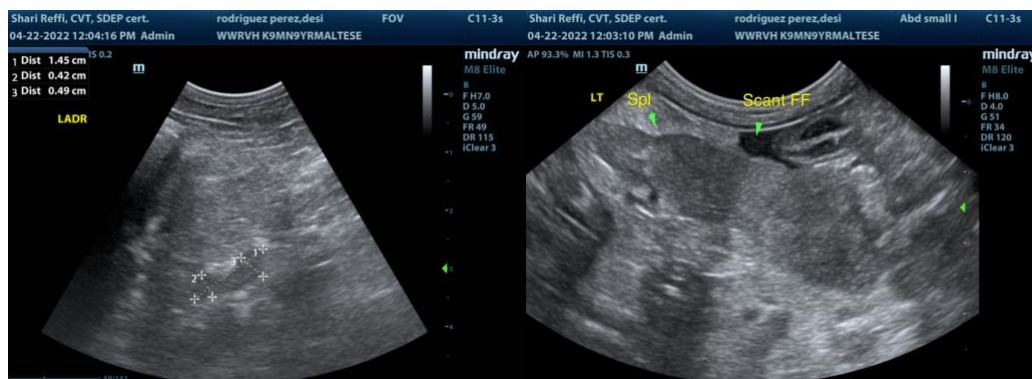
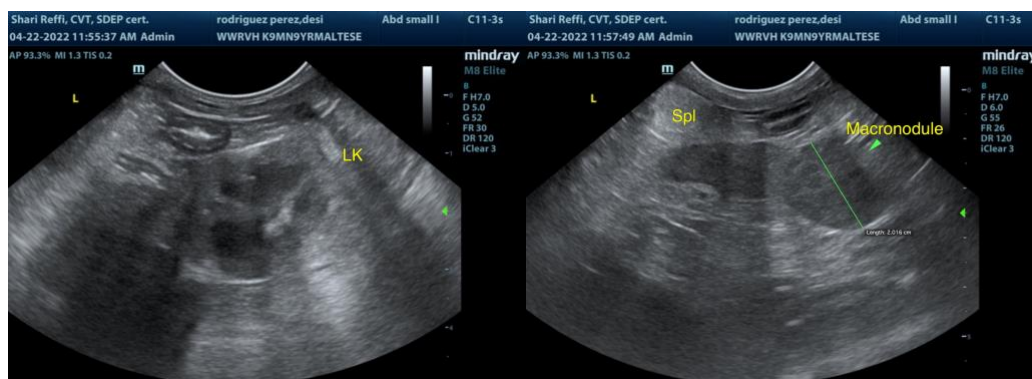
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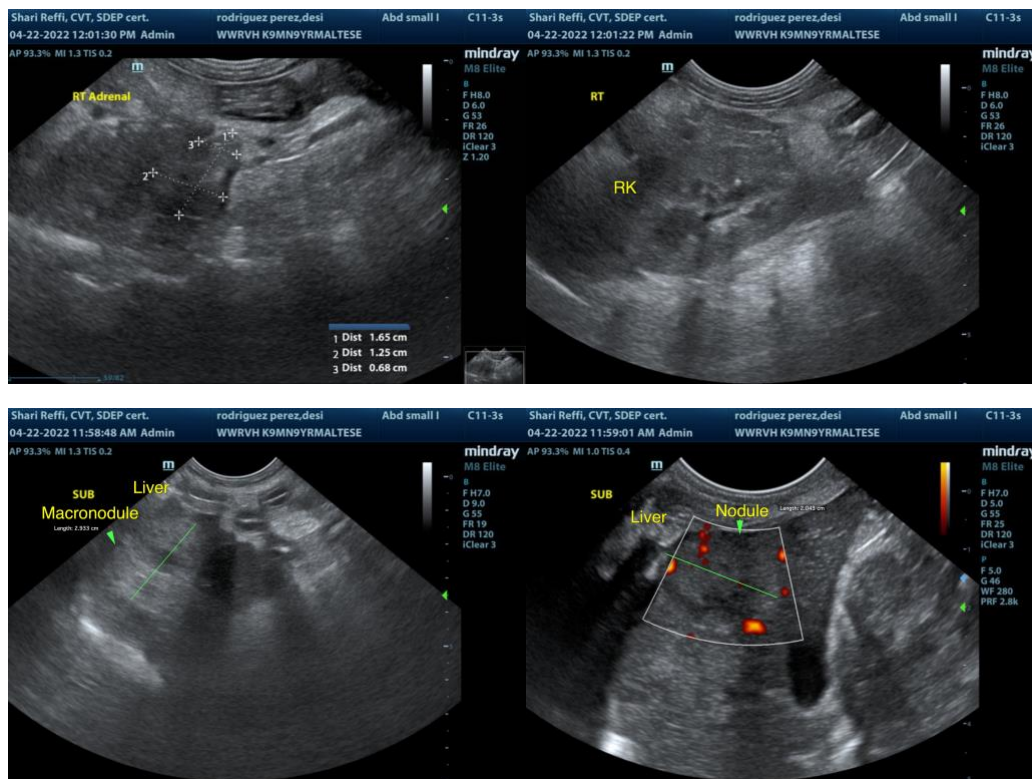
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)  
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