

**PATIENT PRESENTING CLINICAL SIGNS**

Java Gillespie-Armstrong

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

FS

**AGE**

9yr

**WEIGHT**

19lb

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Ingersoll Veterinary  
Services

**REFERRING VET**

Dr. Prystayko

**INVOICE**

11431ag

**DATE**

08/19/2022

History: Dog presented Jan 19/22 with vague history for 1 week decreased energy, straining to urinate but no urine accidents in house. Significant findings on work up was mainly proteinuria with no UTI and elevated urine protein/creatinine ratio >2. Switched to lower protein kidney diet and wanted to repeat UPC ratio 2 weeks later. Next repeat was March 2022 as dog presented for sudden onset vomiting that resolved on own. UPC ratio still >2 so started Semintra (telmisartan) at approx 1 mg/kg (6mg SID). Doppler BP was 185-195 and HR approx 150 BPM. Next repeat was May 2022 (6 wks on Telmisartan) no real change in UPC ratio. Increased dose telmisartan to 2mg/kg SID (20 mg SID). Next check June 13/22 HR 100 bpm and doppler BP 200-215 UPC still elevated (did not know at the time but dog was off kidney diet for 2 months) Dog now PU/PD at home .First in morning SG now 1017. Stopped Telmisartan as no improvement with meds. Restarted kidney diet. Dog has good appetite no weight loss and is energetic according to owners. Monthly Spectra and Kidney food.

Abnormal PE/Chem/CBC/UA Results: UPC ratios have all been >2 and values up and down and not decreased with medications. SDMA 19(0-14) Urea Low, ALKPHOS 1553 (23-212), PLT 546 high MPV Low. Otherwise CBC normal.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 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.

Normal size and margination was 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. No evidence of pelvic dilation was present. Pinpoint areas of bilateral medullary mineral were present. The left kidney measured 4.1 cm in length. The right kidney measured 4.3 cm in length.

The area of the aortic trifurcation was free of pathology.

**Adrenal Glands**

The left adrenal gland was enlarged in size with areas of mild capsule asymmetry yet over maintained capsule integrity. Non-homogeneous parenchyma with nodular changes was present. No overt evidence of parenchymal escape or vascular invasion. The left adrenal gland measured 0.98 cm width at the caudal pole and 2.5 cm length.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.54 cm width at the caudal pole and 1.7 cm length.

**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**



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The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

**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.

**Pancreas**

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

- Non-specific moderate chronic renal changes
- Mildly enlarged left adrenal gland
- Vacuolar hepatopathy pattern-benign

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Considerations for the left adrenal gland include adenomatous change, benign hyperplasia or emerging neoplastic criteria cannot be excluded. Full adrenal workup with LDDST could be considered if clinically applicable. Some concern for left pheochromocytoma is warranted given the nonresponsive proteinuria and hypertension. A urine catecholamine levels to Marshfield Labs is recommended. Continued therapy for protein losing nephropathy would be appropriate.

For an additional charge, internal medicine consult can be utilized through Sonopath.com. You can select the internal medicine drop down at <http://spa.sonopath.com/>.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. <https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services>



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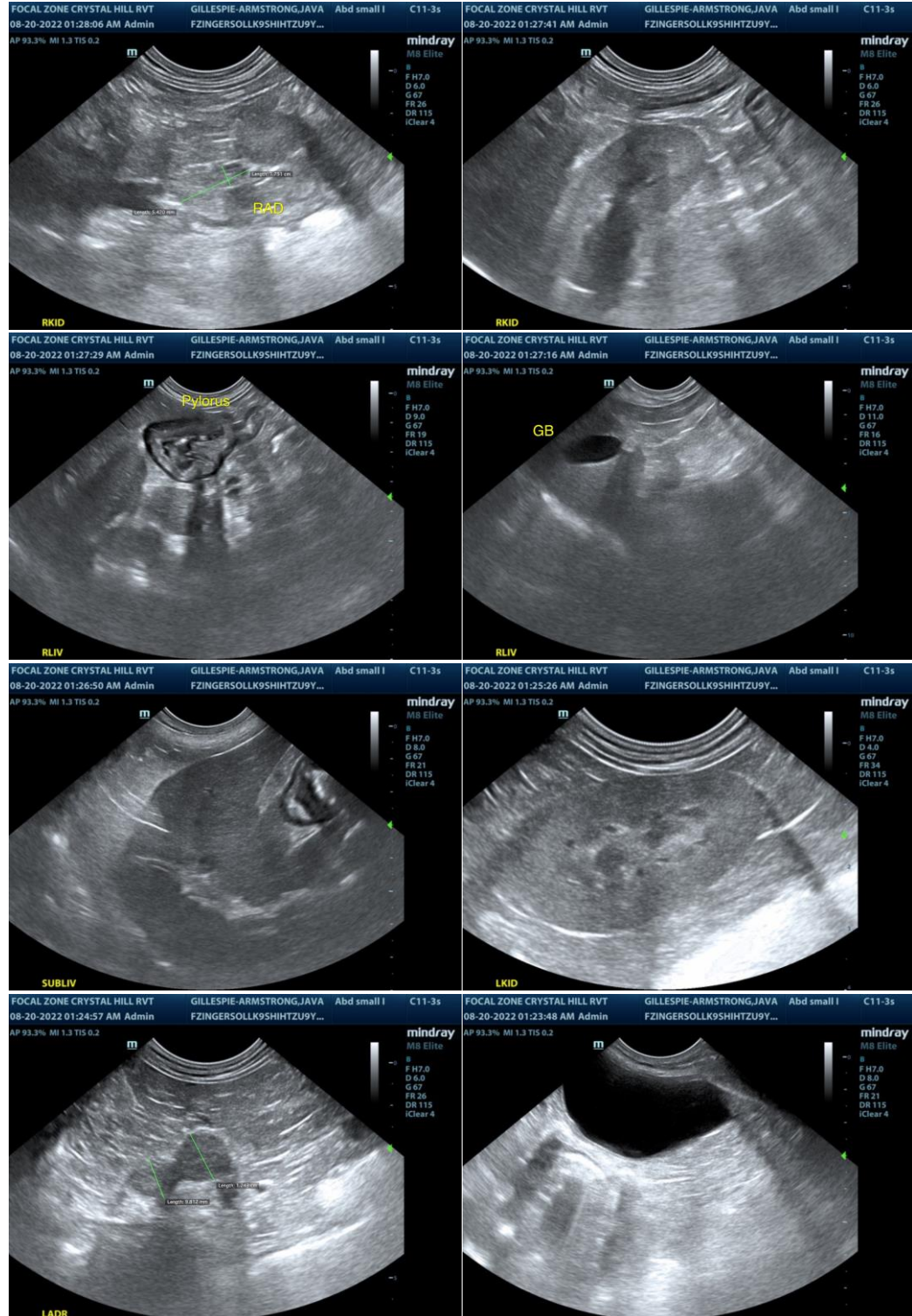
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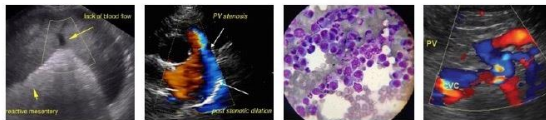
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance please contact me.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**

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