



PATIENT

Roland Gualpa

SPECIES

Feline

BREED

DSH

SEX

M

AGE

5 months

WEIGHT

7 lbs.

PRESENTING CLINICAL SIGNS

Pre-Operative bloodwork for neuter shows kidney disease
 Abnormal PE/Chem/CBC/UA Results: BUN 143, Creat 4.3

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	BODY WEIGHT	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	7 lbs.	NM	0.48	1.44	0.45	45	78
FELINE CARDIAC PARAMETERS	LA/AO (M-mode)	LA/AO HEART BASE (Sisson)	LAD LA MAX 4 Chamber		LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	-	1.1	1.2		1.0	0.8	-
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

INTERPRETED BY

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

IMAGING PERFORMED BY

Vincent Ravancho, CVT

HOSPITAL NAME

Marsh Hospital for
 Animals

REFERRING VET

Dr. Megan Armani

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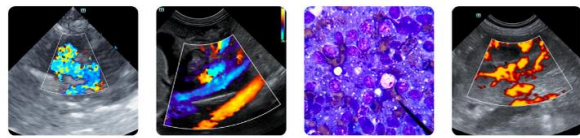
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Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Nondependent, particulate, mild to moderate sediment was present with mild dependent lumen mineral. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted.



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The area of the iliac trifurcation was free of pathology.

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Normal renal size with asymmetrical margination was present in the left kidney. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild indistinct corticomedullary border demarcation was also present. Focal to mild areas of medullary mineral were noted. No evidence of pyelectasia was noted in the left kidney. The left kidney measured 3.9 cm in length.

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The right kidney was mildly enlarged in size compared to the left kidney, exhibiting moderate hydronephrosis with visualized mild proximal left hydroureter. The right kidney measured 4.4 cm in length. The proximal left hydroureter measured ~0.27 cm in diameter. A definitive left ureter obstruction was not overtly visualized.

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Adrenal Glands

No overt pathology was noted in the area of the left and right adrenal glands.

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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.

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Liver/Gallbladder

The liver was subjectively normal in size, structure, and contour. Normal hepatic vascular volume was present. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. 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.

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Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty without evidence of retained ingesta, fluid, or foreign material.

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Vincent Ravancho, CVT

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.

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

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Pancreas

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 were evident.

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Free Abdomen

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No evidence of lymphadenopathy was present. No evidence of peritoneal or retroperitoneal inflammation or effusion.



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ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram
- Bilateral nephropathy with right kidney hydronephrosis and concurrent proximal left hydroureter
- Urinary bladder sediment and mild dependent lumen mineral

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The kidneys did not overtly meet dysplastic criteria, indicating potential for bilateral nonspecific nephritis in conjunction with high concern for non-visualized obstructive left ureter pathology, i.e., calculi, stricture, etc., in conjunction with left kidney hydronephrosis and the presence of mild urinary bladder mineral. Correlation with urinary workup, including urinalysis and C/S, +/- UPC level if non-inflammatory proteinuria, is recommended.

Referral for further assessment, which may include advanced imaging, and potential interventional procedures such as sub-ureteral bypass device or similar, is recommended.

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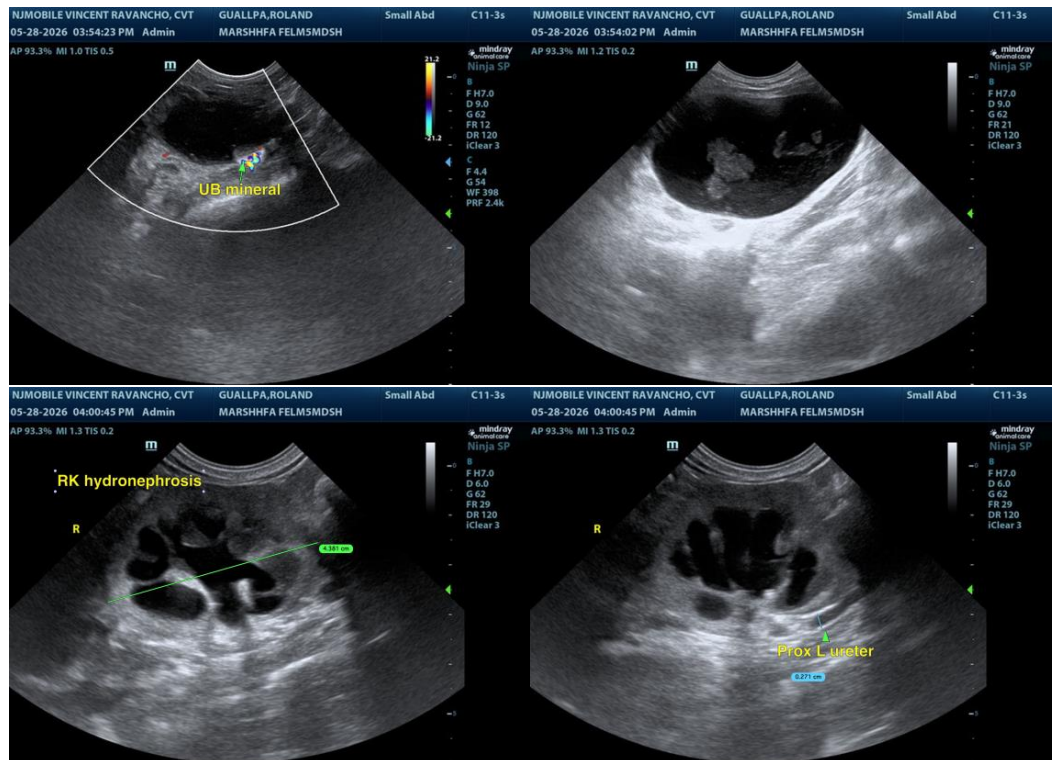
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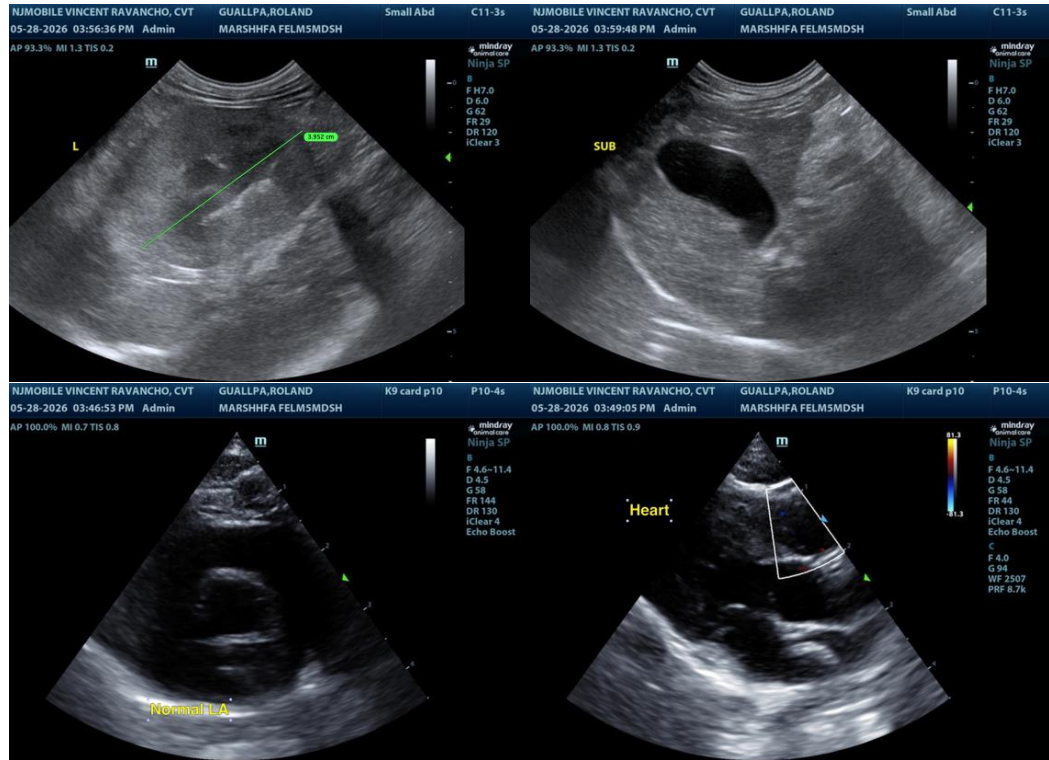
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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