

PATIENT PRESENTING CLINICAL SIGNS

Lucy Nedo seizure activity

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Canine

BREED

Shih Tzu X

SEX

Female

AGE

14 Years

WEIGHT

16.9 Pounds

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.0		NM	1.6	36	68	0.2
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	238	1.0	0.8		4.1	3.3	

Cardiac Presentation

The echocardiogram for this patient presented moderate to severely excessive **left atrial size** expressed in 3 different LA measurement methods. Deviation of the intraatrial septum towards the right atrium noted, suggestive of elevated left atrial pressure. Mild subjective horizontal component to the LA enlargement was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. No evidence of chordae tendineae rupture or valvular prolapse. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour with increased left ventricular volume. 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 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 mild thickening with mild insufficiency on color doppler. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum** and **pericardial regions** were free of masses in the visible window. Subjective tachycardia.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

Dr. Maniar

INVOICE

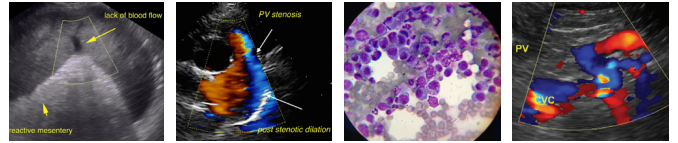
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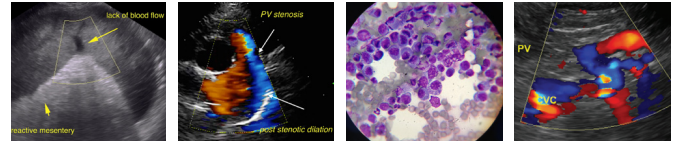
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Urinary System

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



PATIENT	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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.6 cm. The right kidney measured 4.0 cm.
Lucy Nedo	
SPECIES	<i>Adrenal Glands</i>
Canine	The right adrenal gland was not distinctly visualized.
BREED	The left adrenal gland was mildly prominent to enlarged in size, exhibiting mild asymmetrical contour and non-homogeneous parenchyma with cranial left adrenal discrete, non-expansive nodule. The overall left adrenal gland measured 2.2 cm length x 0.93 cm at the caudal pole. The nodule measured 1.1 cm x 0.87 cm.
Shih Tzu X	
SEX	<i>Spleen</i>
Female	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.
AGE	Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
14 Years	<i>Liver</i>
WEIGHT	The liver was subjectively normal in size, structure, and contour. 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.
16.9 Pounds	
INTERPRETED BY	<i>Gastrointestinal</i>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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.
IMAGING PERFORMED BY	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.
Jenn	Normal visible colon wall layers were present with apparent formed feces in lumen.
HOSPITAL NAME	<i>Pancreas</i>
Rockaway AH	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.
REFERRING VET	ULTRASONOGRAPHIC FINDINGS
Dr. Maniar	<ul style="list-style-type: none"> • Chronic mitral valve disease (ACVIM B2, possible emerging Stage C) • Mild TR – TV insufficiency velocity was not measured in this patient, yet given the lack of right atrial or right ventricular enlargement as well as lack of pulmonary artery enlargement, potential clinical pulmonary hypertension is considered low. • Prominent to indistinctly nodular left adrenal gland • Bilateral mild chronic renal changes
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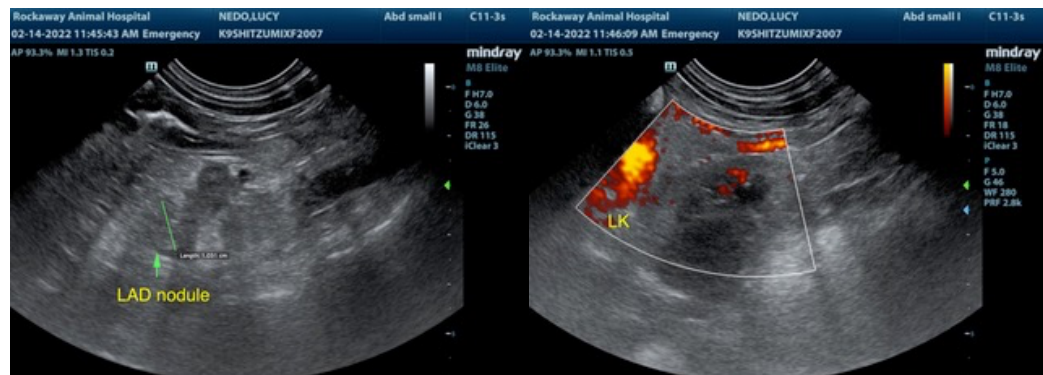
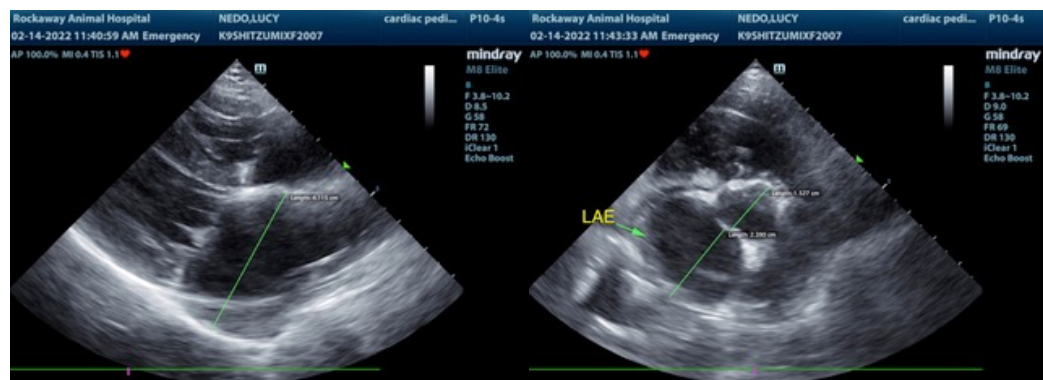
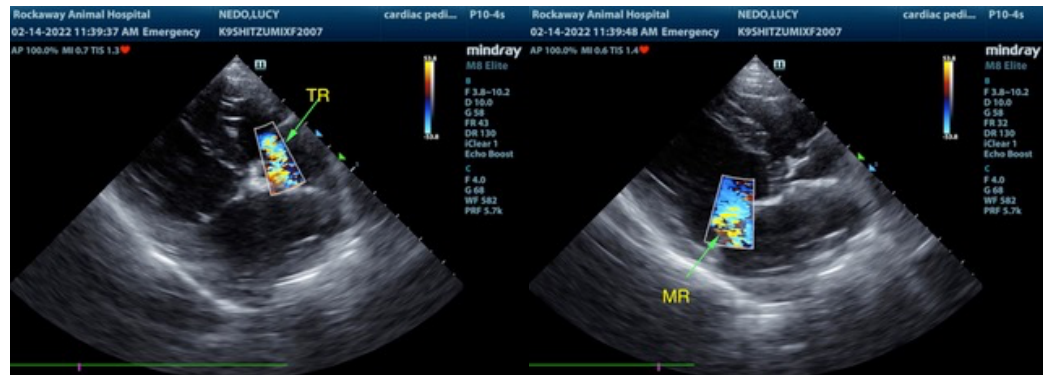
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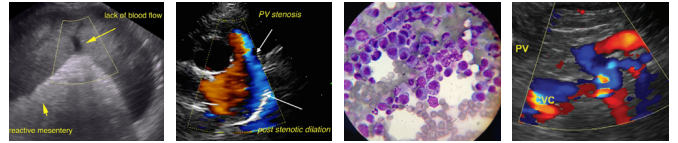
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The degree of left atrial enlargement indicates that the current and future risk of complications secondary to mitral valve insufficiency going forward is elevated. Potential for clinical signs associated with cardiogenic edema. Correlation with 3-view chest radiographs recommended. Likewise, possibility of intermittent arrhythmogenic disease in this patient may be present. ECG and blood pressure assessment recommended. Pimobendan 0.3 mg/kg PO BID +/- lowest effect dose of diuretic warranted at this stage. Recheck echocardiogram suggested in 6 months, sooner if continued clinical signs persist.

Considerations for the left adrenal gland may include functional versus non-functional adenoma, hyperplasia, or lipogranuloma, while the possibility of emerging neoplasia such as pheochromocytoma, adenocarcinoma, or other may be possible. If evidence of hypertension, urine catecholamine levels would be considered. Ideally, sonographic monitoring of the left adrenal gland for evidence of progression with initial recheck in 4-6 weeks recommended. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.





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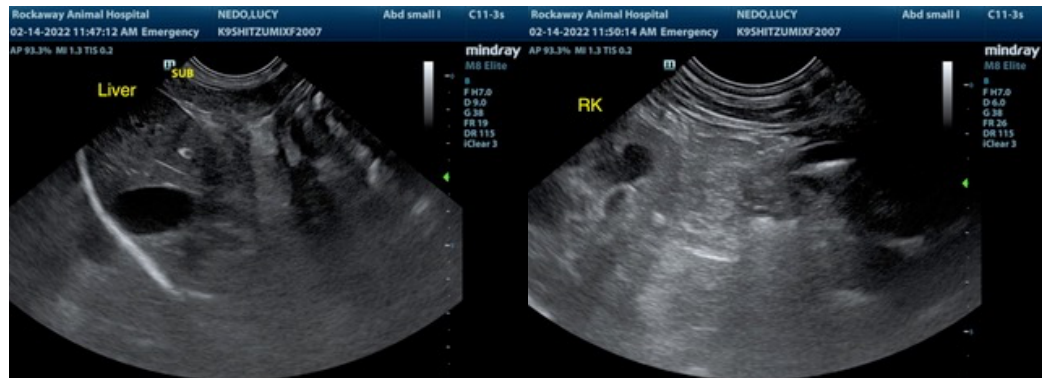
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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