


**PATIENT**

Bessy Widejko

**PRESENTING CLINICAL SIGNS**

HM 4-5/6 Current meds Lasix and Enalapril

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

FS

**AGE**

13

**WEIGHT**

13

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jenn

**HOSPITAL NAME**

 Rockaway Animal  
 Hospital

**REFERRING VET**

Dr. Maniar

**INVOICE**

14637ag

**DATE**

08/18/2023

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**

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		<2.0		1.85	50	82	0.3
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				
PATIENT	NM		0.7		3.4	2.7	

**Cardiac Presentation**

The echocardiogram for this patient presented mild to moderate increased left atrial size expressed both in the LA/AO and LA max measurements. Subtle deviation of the interatrial septum towards the right atrium suggestive of mild increased left atrial pressure was noted. The cranial and caudal mitral valve leaflets presented moderate thickening (anterior>posterior) consistent with endocardiosis. Doppler indicated moderate eccentric insufficiency. The left ventricle presented 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 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 TR on 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.

**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.



<b>PATIENT</b>	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 mildly increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.4 cm in length. The right kidney measured 3.5 cm in length.
Bessy Widejko	
<b>SPECIES</b>	The area of the aortic trifurcation was free of pathology.
Canine	
<b>BREED</b>	<b>Adrenal Glands</b>
Shih Tzu	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.36 cm width at the caudal pole and 2.3 cm length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.43 cm width at the caudal pole and 1.8 cm length.
<b>SEX</b>	<b>Spleen</b>
FS	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.
<b>AGE</b>	<b>Liver/Gallbladder</b>
13	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 primarily anechoic luminal content. The cystic and common bile ducts were normal.
<b>WEIGHT</b>	<b>Gastrointestinal</b>
13	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.
<b>INTERPRETED BY</b>	<b>HOSPITAL NAME</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	Normal visible colon wall layers were present with apparent formed feces in lumen.
<b>IMAGING PERFORMED BY</b>	<b>Pancreas</b>
Jenn	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.
<b>REFERRING VET</b>	<b>Free Abdomen</b>
Dr. Maniar	No omental masses, overt lymphadenopathy or peritoneal effusion was present.
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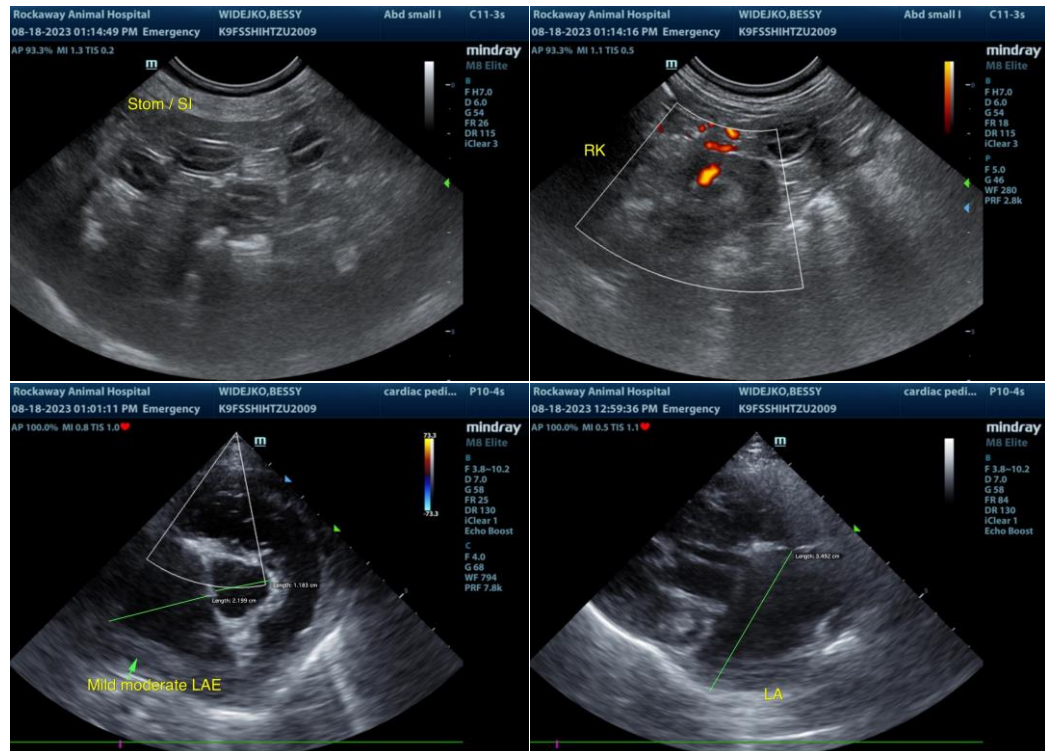
**ULTRASONOGRAPHIC FINDINGS**

- Chronic mitral valve disease (ACVIM B2) with mitral valve prolapse.
- Mild TR-not consistent with overt clinical pulmonary hypertension.
- Moderate chronic renal changes.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The mild to moderately increased left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is mild to moderately elevated. Pimobendan 0.3 mg/kg PO BID is warranted with diuretic therapy only recommended if documented increased resting RR or radiographic evidence of pulmonary edema. ACE inhibitor medication is suggested if systemic BP is >130 (not advised if systemic BP is <130).

Prognosis at this stage is highly variable and serial sonographic monitoring is recommended with a recheck echocardiogram in 6 months, sooner if clinically indicated. Assessment of renal parameters and a full urinary workup including UA, C/S and baseline UPC level if evidence of proteinuria is suggested.





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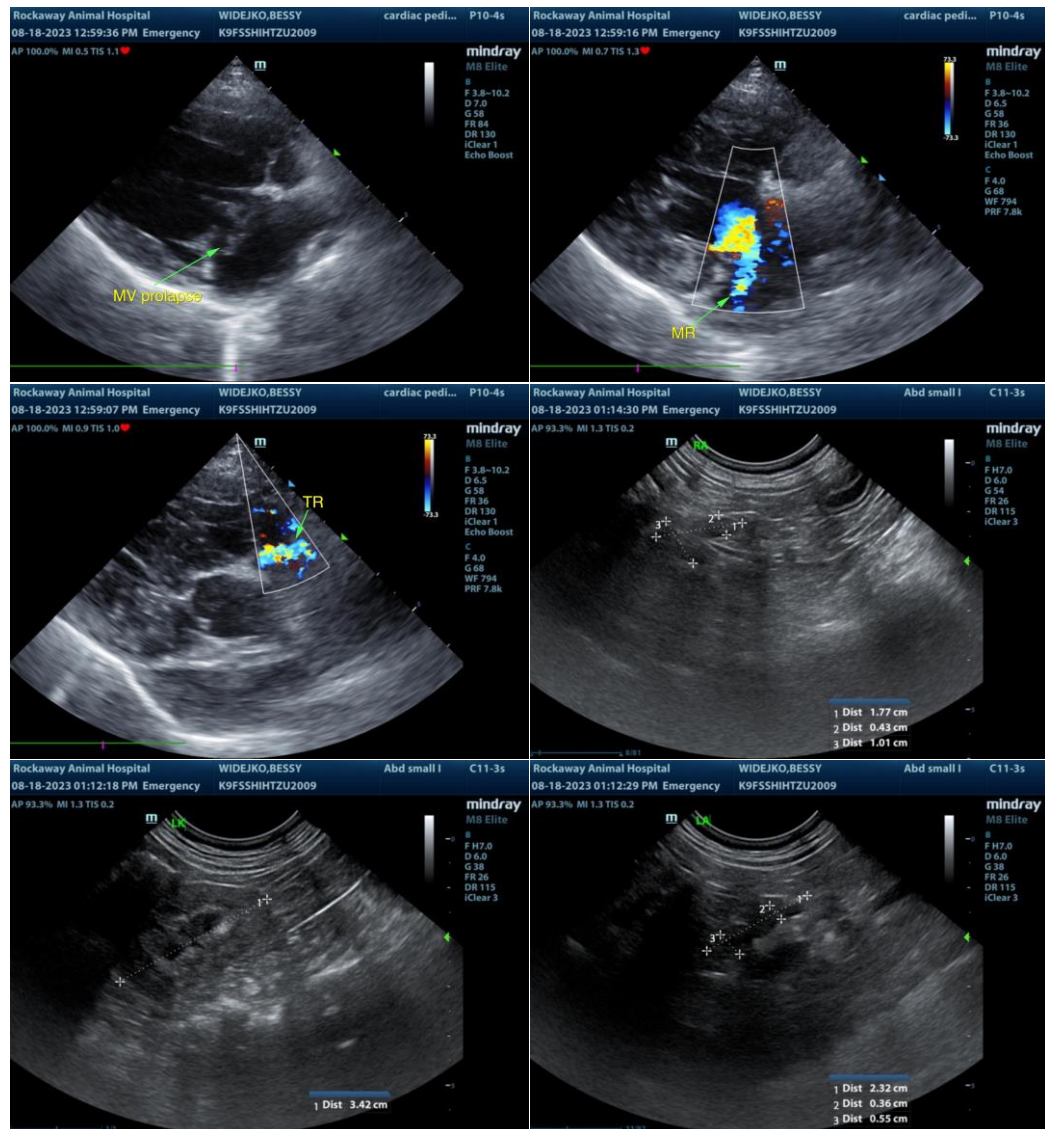
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)  
[info@sonopath.com](mailto:info@sonopath.com)