



## PATIENT

Johnson Stray SPCA

## SPECIES

Feline

## BREED

DSH

## SEX

Neutered Male

## AGE

8 Years

## WEIGHT

5.03 kg

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Dr. Brian Barnes

## HOSPITAL NAME

Westview AH

## REFERRING VET

Dr. Brian Barnes

## INVOICE

15044

## DATE

5/5/22

## PRESENTING CLINICAL SIGNS

History: Stray that was HBC suspected No murmurs no arrhythmia. X-ray findings prompted Echo and AUS

Abnormal PE/Chem/CBC/UA Results: X-rays DAVCR 1. Moderate cardiomegaly likely due to hypertrophic cardiomyopathy. Other forms of cardiomyopathy cannot be ruled out. There is no evidence of heart failure at this time. 2. The appearance of the spleen could simply be a positional variant. A splenic mass (i.e. splenic neoplasia) cannot be ruled out. 3. Constipation. 4. Severe left stifle effusion likely compatible with an intra-articular injury such as a partial/complete cruciate rupture and/or meniscal damage. 5. Unremarkable right stifle and tarsi. 6. Unremarkable pelvis.

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
<b>NORMAL PARAMETER</b>	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
<b>PATIENT</b>	--	NM	0.53	1.6	0.53	58.2	98.7
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
<b>NORMAL PARAMETER</b>	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
<b>PATIENT</b>	1.3	1.28	1.2	0.9	1.0	NM	
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							

## Cardiac Presentation

The echocardiogram demonstrated normal left atrial size and structure. Anechoic content was present in the left atrium. The cranial and caudal mitral valve leaflets presented minor subjective irregular changes that are not considered clinically significant at this time with adequate extension in systole and union in diastole. No overt MR. The left ventricle presented overtly normal free wall and septal thicknesses with minor alinear contour and evidence of mild IVS and LV free wall and myocardial remodeling. Mildly prominent to remodeled papillary muscles were present. Contractility of the ventricular walls was adequate as evidenced by the fractional shortening measurement. The left ventricular outflow tract demonstrated normal laminar flow. The right atrium and auricle revealed overtly normal size, structure and content. No evidence of masses. Tricuspid valvular assessment demonstrated potential minor irregular presentation. Minor TR present on doppler assessment. The right ventricle was of normal size, approximately 1/3 diameter of left ventricle with evidence of concurrent free wall and myocardial remodeling. Pulmonic tract assessment revealed normal valve structure, laminar systolic flow and diameter. No right heart dilation owing to heartworm disease, cor pulmonale, stenotic disease or evidence of pulmonary hypertension. No visible pericardial or free pleural fluid. The mediastinum was free of masses in the visible window.



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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. Primarily anechoic urine was present in the lumen. Mild nondependent particulate sediment was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 4.4 cm in length. The right kidney measured 4.8 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 0.42 cm.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.56 cm.

**Spleen**

The spleen exhibited mild generalized enlargement. A maintained symmetrical capsule contour noted. A finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. 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. No masses or nodules noted. The spleen measured 1.2 cm in width.

**Liver**

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.

**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**



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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.

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## Free Abdomen

No omental masses, lymphadenopathy or peritoneal free fluid was present.

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## ULTRASONOGRAPHIC FINDINGS

- Overtly normal IVS and LV free wall thickness with evidence of minor myocardial remodeling
- Mildly prominent to remodeled papillary muscles
- Normal left atrium
- Minor TR
- Mild nonspecific splenomegaly
- Mild urinary bladder sediment

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, no evidence of significant structural or functional cardiomyopathy. The LV myocardial remodeling with concurrent prominent to remodeled papillary musculature is nonspecific and may indicate patient or early age-related variant. The possibility of mild form or emerging HCM could be possible. Regardless, the normal left atrium size without evidence of clinical issues, such as LV systolic dysfunction or right heart disease are consistent with compensated cardiac presentation. No indication for cardiac medications.

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The urinary bladder sediment may suggest cellular / crystalline debris or mucus. Cystocentesis for UA +/- C/S if evidence of inflammatory cells is recommended.

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The mild splenomegaly was nonspecific yet not overtly consistent with neoplastic criteria. Potentially this may be owing to sedation with potential for patient variant, hyperplasia, hematopoiesis or incidental splenitis. No evidence of splenic neoplastic criteria or trauma.

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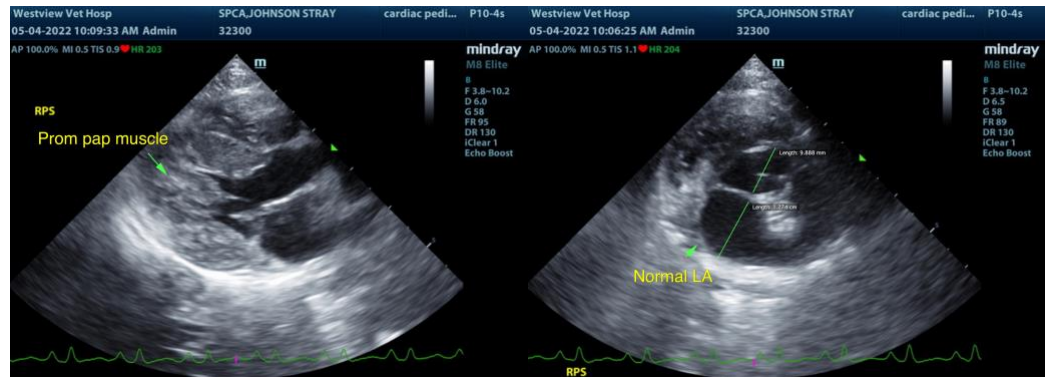
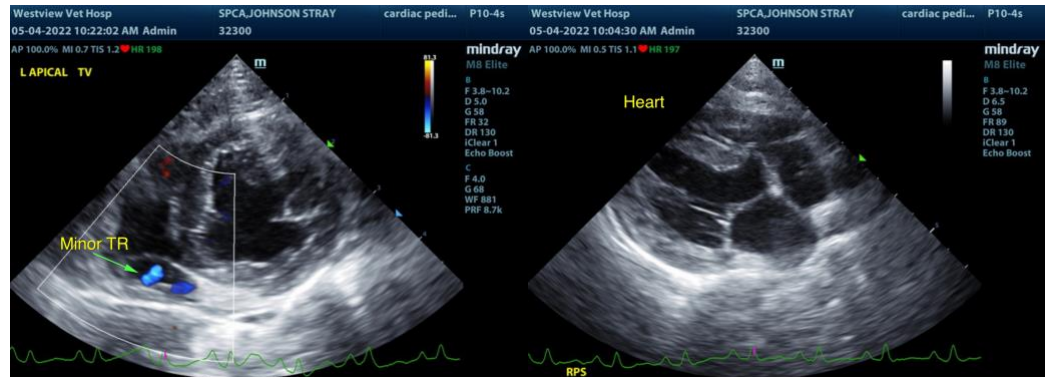
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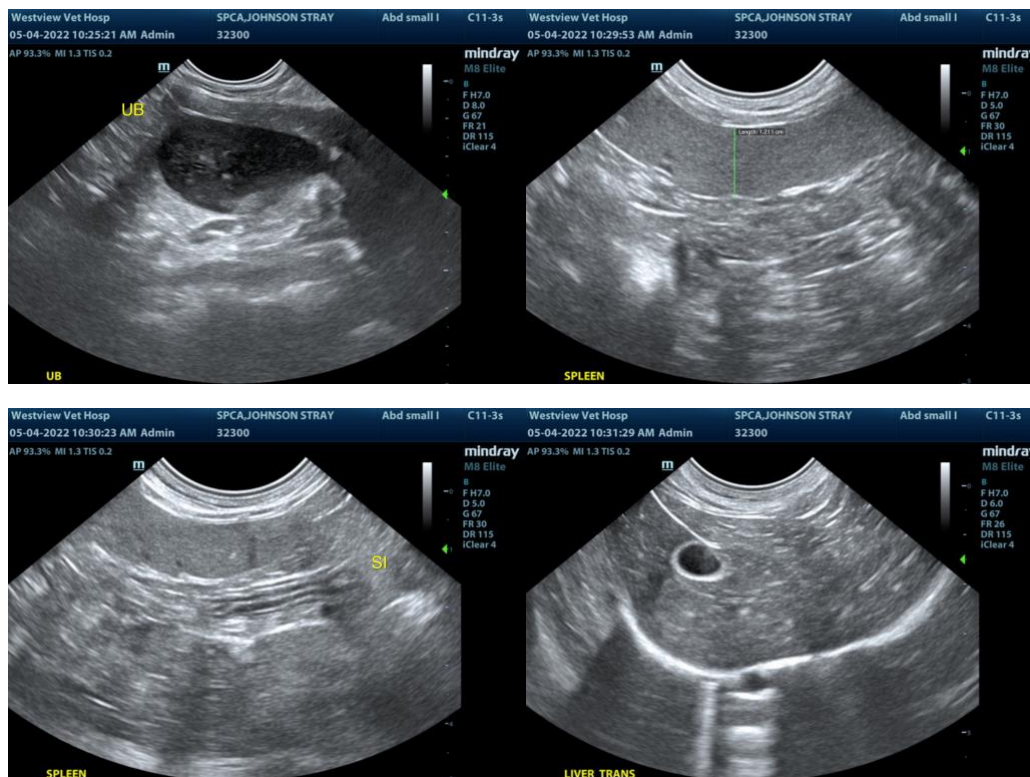
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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