



**PATIENT PRESENTING CLINICAL SIGNS**

Ruby Anthony

**SPECIES**

Canine

**BREED**

Chihuahua

History: Ruby presented for diagnostic cardiac work-up today to stage her mitral valvular disease. She had a 2/6 intensity cardiac murmur in 2020, which increased to a 4/6 intensity murmur in fall of 2022, and now is a 4/6 to 5/6. Her heart rate was mildly elevated at 162, resp. rate normal at 30 and she has not had abnormal clinical signs at home. She is usually given trazodone for generalized anxiety but did not receive her dose this morning. She was given butorphanol (1mg IV) for light sedation for today's ultrasound exam. Her BP was normal, ranging from 129/76 (116) to 143/80 (88) mmHg and her chest rads were unremarkable, showing normal appearing cardiac silhouette, lung fields, great vessels, airways and organs/ structures in views.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**SEX**  
Spayed female

**AGE**  
10 years

**WEIGHT**  
11.4 lbs

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Prolapse of the anterior mitral valve leaflet is noted. Doppler indicated measurable 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 adequate linear morphology. 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.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**  
Dr. McFeely

**HOSPITAL NAME**  
Straley VA

**REFERRING VET**  
Dr. McFeely

**INVOICE**  
42870

**DATE**  
2/16/23

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base;)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			NM	1.7	45		NM
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		1.4	0.7	11.4 lbs	2.33 max	2.6	



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**ULTRASONOGRAPHIC FINDINGS**

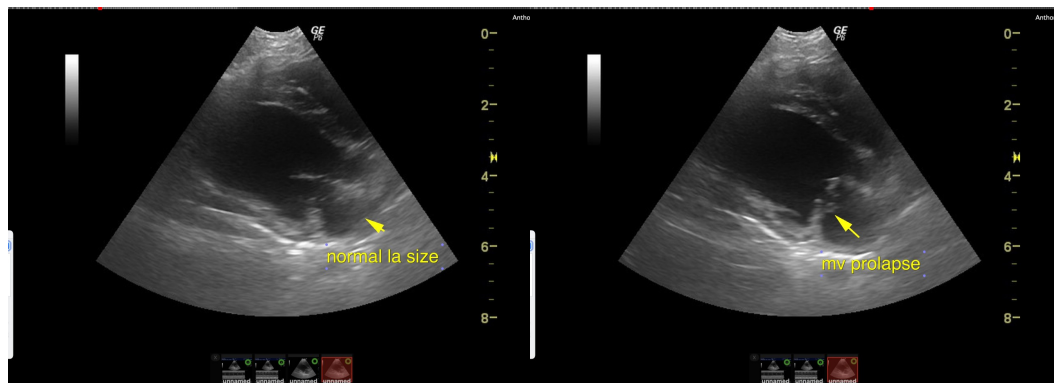
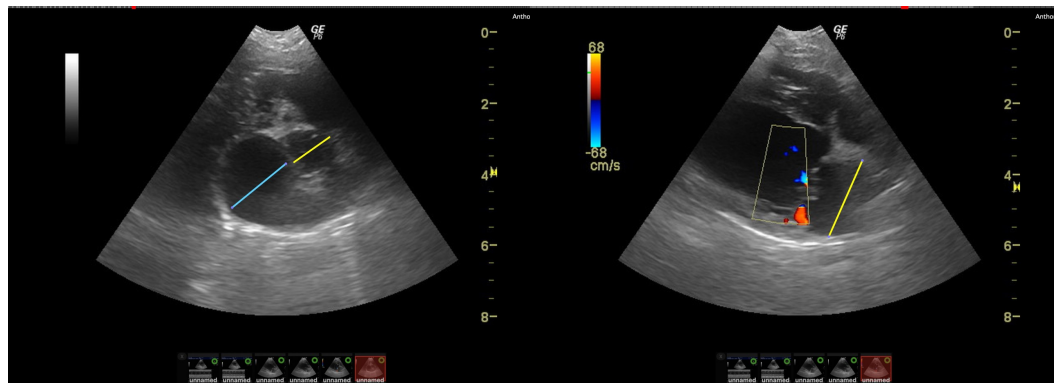
Mitral insufficiency.

No left atrial enlargement.

Sage B1 valvular disease.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflor maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.





**PATIENT**

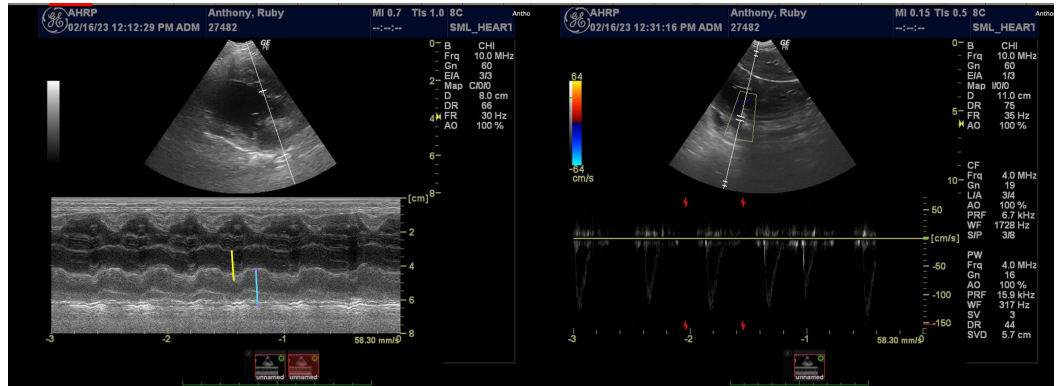
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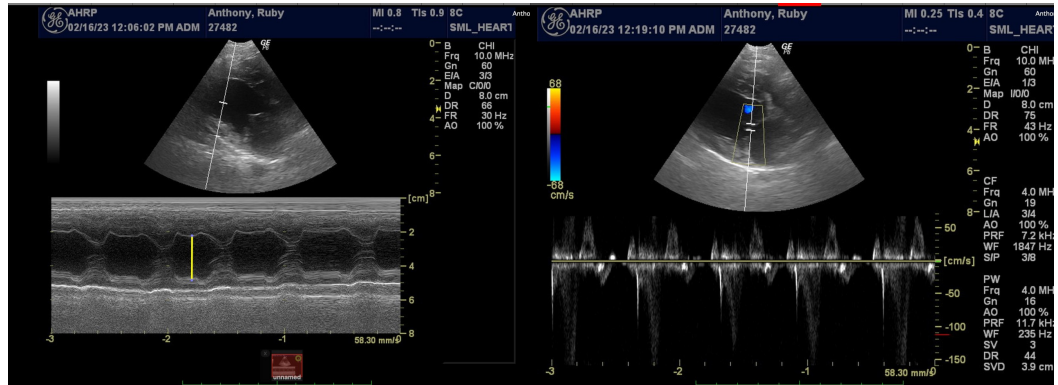
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**INTERPRETED BY**

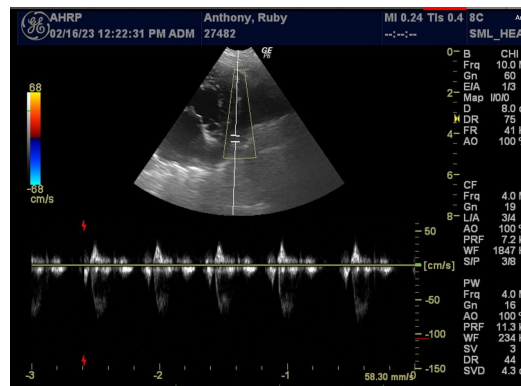
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**INVOICE**

42870

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.

**DATE**

2/16/23

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