



## PATIENT

Mustang Marchese

## SPECIES

Canine

## BREED

Chihuahua

## SEX

MN

## AGE

12 years

## WEIGHT

15 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Shohola

## REFERRING VET

Dr. Gramazio

## INVOICE

13504

## DATE

3/17/22

## PRESENTING CLINICAL SIGNS

Grade III/VI murmur, coughing. Current meds: Bravecto  
Abnormal PE/Chem/CBC/UA Results: None yet

## ULTRASONOGRAPHIC EXAMINATION OF THE 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)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	6.1	2.1	1.34	1.34	42	76	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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	161	1.0	1.1		2.3	2.1	

### Cardiac Presentation

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. Doppler indicated measurable 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 revealed mild thickening with mild TV insufficiency. 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.

## ULTRASONOGRAPHIC FINDINGS

- Compensated chronic mitral valve disease (ACVIM B1)
- Mild TV insufficiency - estimated pulmonary pressure gradient (Approximately 20 mmHg) not consistent with clinical pulmonary hypertension



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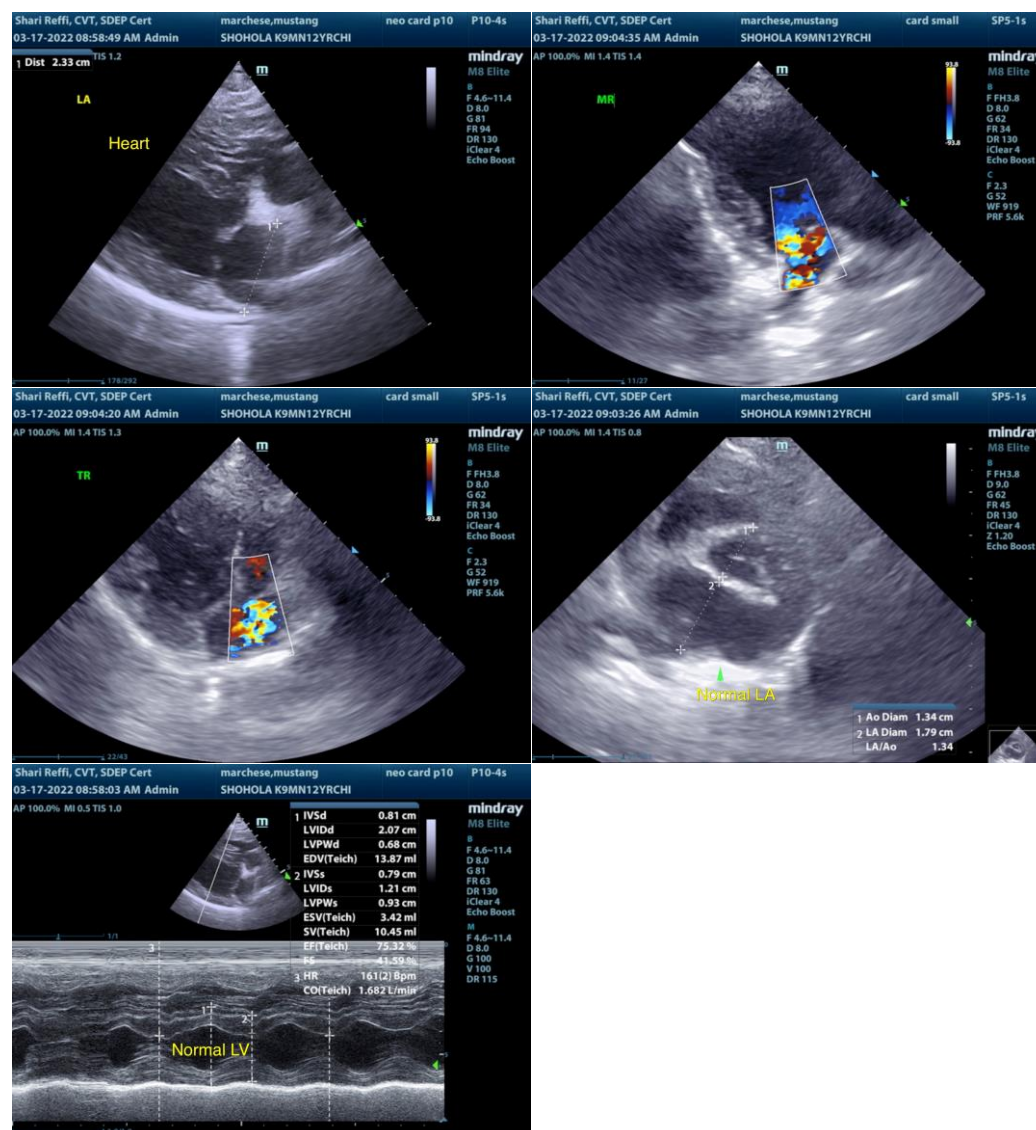
## DATE

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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with primary eccentric mitral valve Insufficiency and mild TV insufficiency. The lack of left atrium enlargement indicated that the risk of current and future complication going forward at this stage is low. No other clinical issues such as systolic dysfunction of clinical pulmonary hypertension were present.

Given this cardiac presentation, the coughing in this patient appears to be non-cardiogenic in origin. Consider potential for primary lower airway disease. No indication for cardiac medications at this stage. Serial sonographic monitoring is required for further prognosis. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with heart disease arise. Screening blood pressure is suggested to assess for hypertension, given the mildly elevated MR velocity.





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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**