



**PATIENT PRESENTING CLINICAL SIGNS**

Murphy Gazaferi

History: Coughing with exercise intolerance. Enlarged heart on radiographs. Systolic murmur 3-4/6. PU/PD.  
Abnormal PE/Chem/CBC/UA Results: ALP 537.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**BREED**

Maltipoo

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial **mitral** valve insufficiency was noted. 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 **aortic valve** was mildly thickened. Aortic velocity is excessive at 2.26 m/sec. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum** and **pericardial and extra-cardiac** regions were free of masses in the visible window.

**SEX**

Neutered male

**AGE**

5 ½ years

**WEIGHT**

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

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			1.0	1.2	31	61	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				
PATIENT	123	2.26	1.61		2.0 max	2.27	

**IMAGING PERFORMED BY**

Kelly Vazquez, CVT

**HOSPITAL NAME**

Ramapo Valley AH

**REFERRING VET**

Dr. Katara

**ULTRASONOGRAPHIC FINDINGS**

Increased LVOT and thickened aortic valve.

**INVOICE**

91594

Trivial mitral insufficiency.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**DATE**

8/31/21

If the patient has the murmur its entire life, then a very mild form of subaortic stenosis may be the issue. Otherwise, sequelae from prior episodes of endocarditis may be an issue. The heart is not responsible



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for the cough in this patient as there is no volume overload of the left atrium. Primary respiratory disease is likely responsible for the cough. The left ventricular outflow velocities are not adequate to cause an exercise intolerance. Therefore, primary respiratory disease, orthopedic disease, paroxysmal arrhythmia are all potentials for the exercise intolerance in this patient. A recheck echocardiogram is recommended in 6 months.

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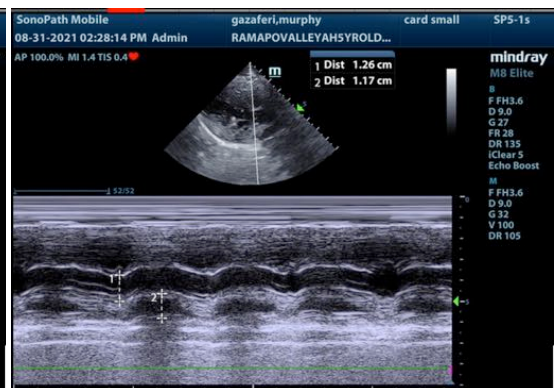
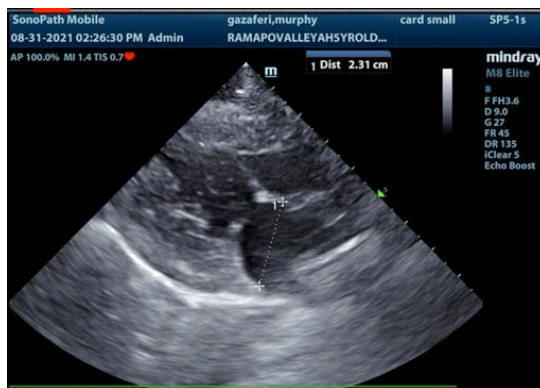
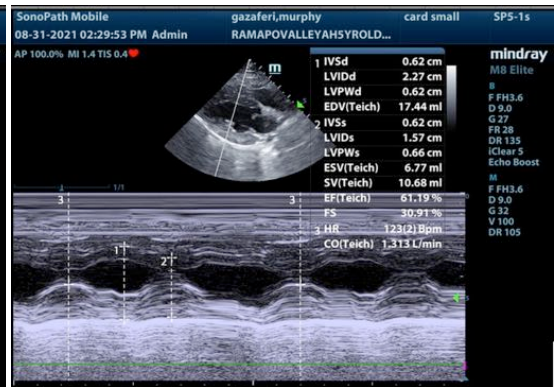
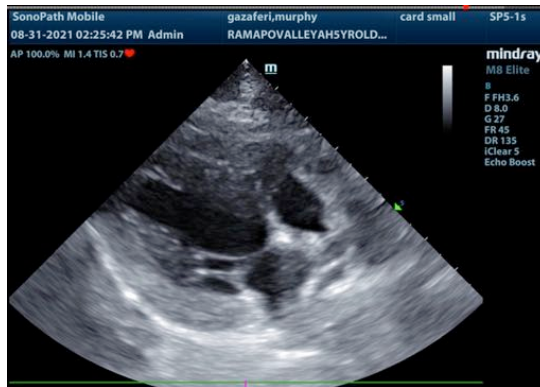
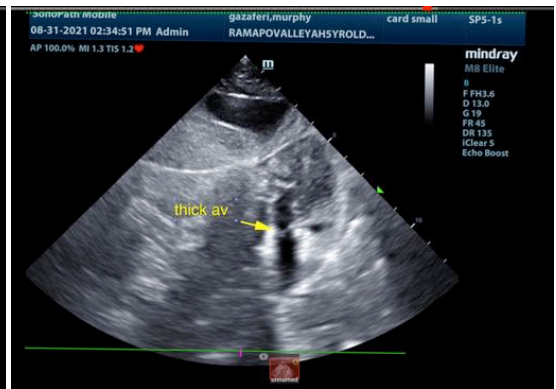
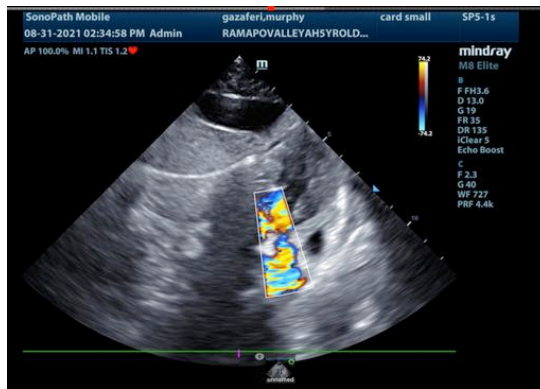
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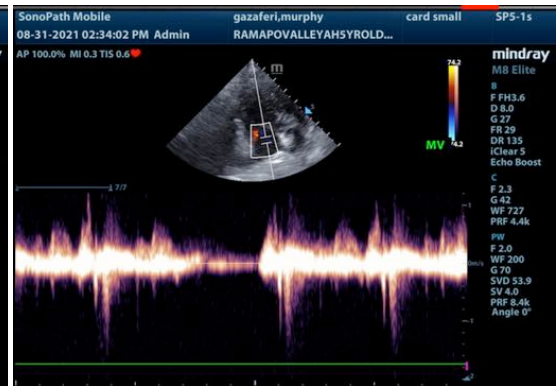
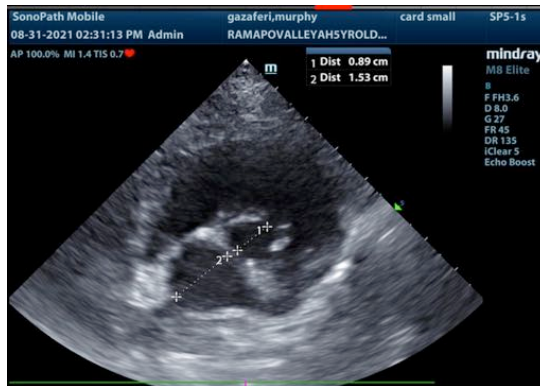
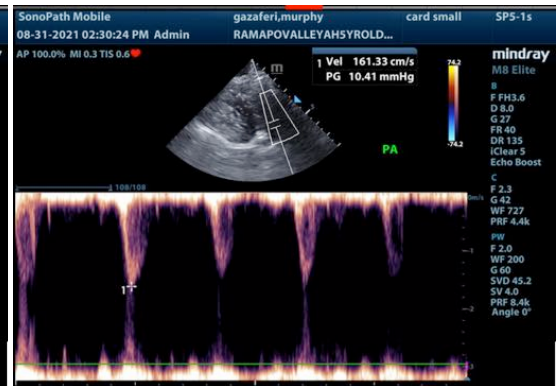
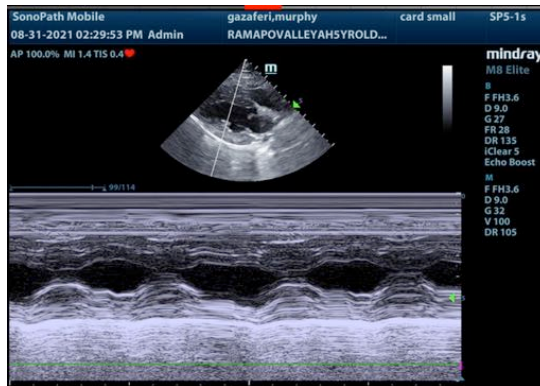
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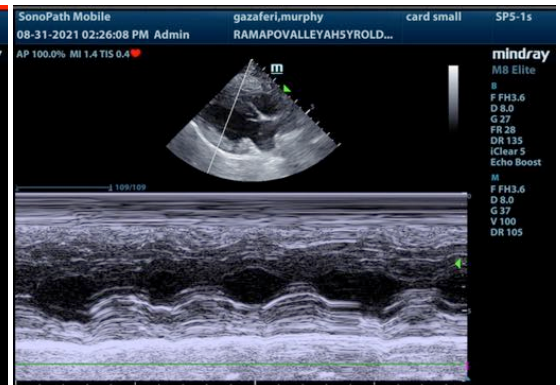
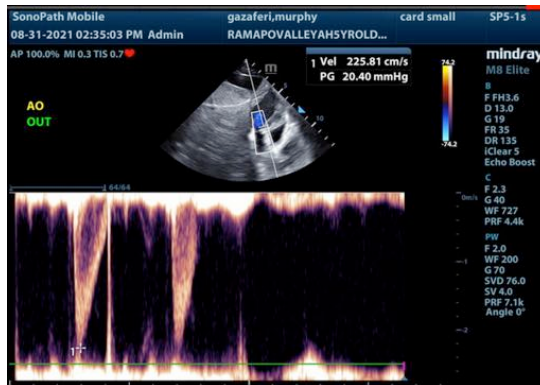
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
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