

**PATIENT**

Cocoa Puff Bruce

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

SF

**AGE**

9 years

**WEIGHT**

13.4 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Sarah Pender, CVT

**HOSPITAL NAME**

SVS Imaging QC

**REFERRING VET**

Dr. Emily Jones Guy

**INVOICE**

13876

**DATE**

5/12/22-

**PRESENTING CLINICAL SIGNS**

Increased respiratory effort/rate (resting RR ranges between 30-70 rpm at home per owner), was seen after hours at another clinic 2 days ago and cardiomegaly was noted on thoracic radiographs (VHS 12.1) with tracheal elevation and mild pulmonary edema.

Abnormal PE/Chem/CBC/UA Results: Grade III/VI systolic murmur, Pulse Ox 96-98% Bloodwork Pending

**ULTRASONOGRAPHIC EXAMINATION OF THE CARD**

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
<b>CARDIAC PARAMETERS</b>	<b>VMAX</b> (m/s)	<b>VMAX</b> (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
<b>PATIENT</b>		1.8		1.38	37.7	70.1	0.22
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
<b>CARDIAC PARAMETERS</b>	(BPM)	<b>VMAX</b> (m/s)	<b>MAX</b> (m/s)	(kg)	2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>	97	1.2	0.75		2.6	2.5	

**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 subjective mild 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 adequate linear morphology. Minor TR was present 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. No evidence of valvular prolapse or chordae tendineae rupture was noted.



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**ULTRASONOGRAPHIC FINDINGS**

- Mildly thickened mitral valve with mild eccentric Insufficiency
- Normal LA / LV
- Mild TR - estimated pulmonary pressure gradient (<20 mm Hg), not consistent with clinical pulmonary hypertension

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is most consistent with chronic degenerative valvular changes with secondary subjective mild eccentric efficiency. No other clinical issues such as LV systolic dysfunction were noted. The lack of significant left atrium enlargement Indicates that the hemodynamic effects of the mitral insufficiency are low and suggest that risk for complication at this stage is low.

Given the overall normal cardiac presentation, no overt evidence of a cardiogenic component to the increased respiratory effort and rate was obvious. Consideration for potential primary lower airway disease may be indicated.

A low-dose diuretic trial with an assessment of clinical response and potential weening could be considered. However, no overt indication for definitive cardiac medications. Serial sonographic monitoring is required for further prognosis. Recheck echocardiogram is suggested in 6 months, sooner if strong clinical suspicion for clinical signs associated with heart disease are noted.

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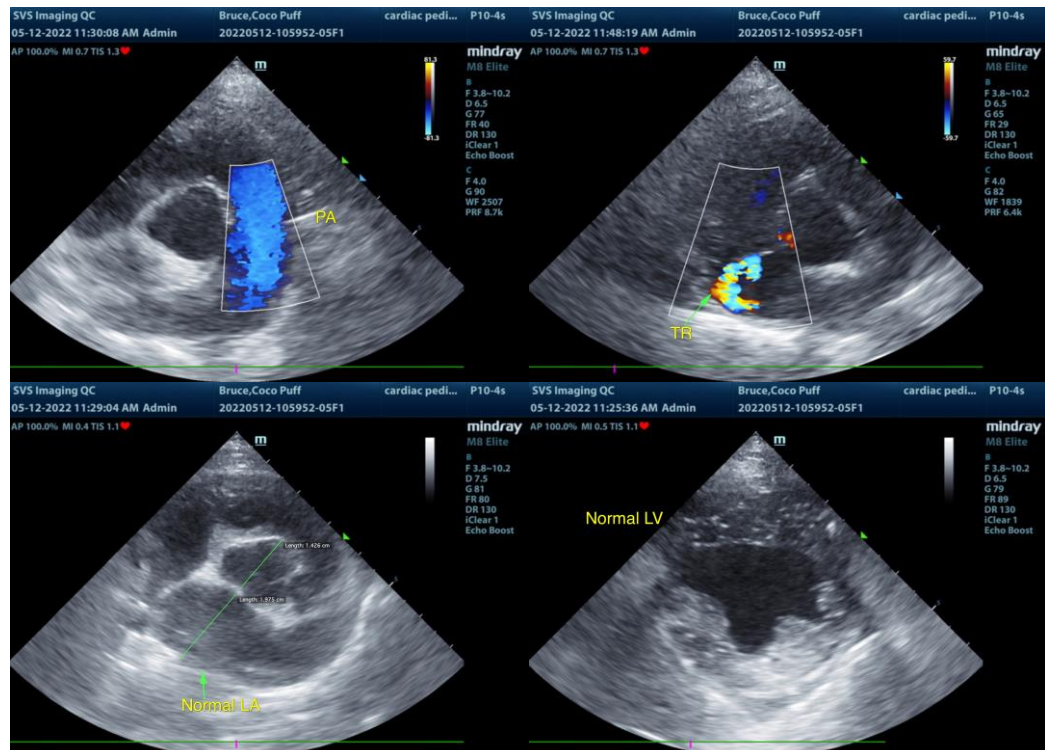
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svsmobileimaging.com 309-737-3070



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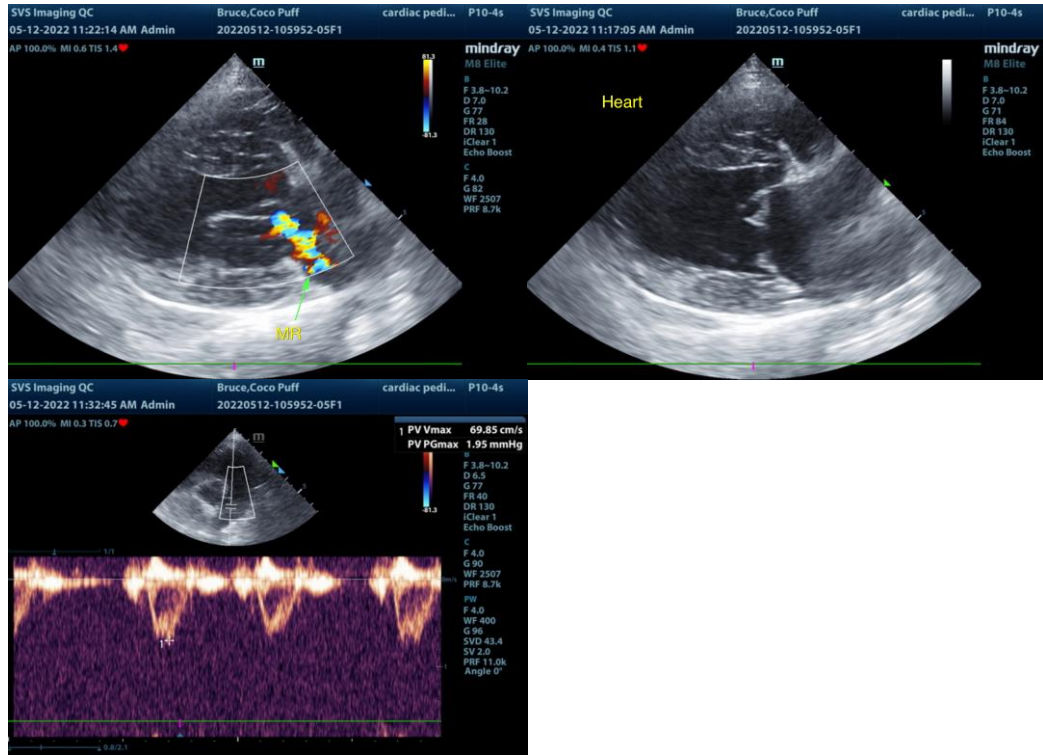
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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