

## PATIENT PRESENTING CLINICAL SIGNS

**Graffiti Baker**  
**SPECIES** Canine  
**BREED** Chihuahua X  
**SEX** Neutered Male  
**AGE** 11 Yrs  
**WEIGHT** 8.9 lbs

heart murmur III/VI NSF, SSP L forelimb angular varis deformity Hx of chronic UTI (appears to be resolved) IVDD (patient's bladder has to be expressed) Concerns with elevated liver enzymes and trending higher Meds: Pimobendan, Denamarin, CBD, Welactin fish oil, Cranidinin, Adequan, Chai Hu Shu Gan (just started)  
 Abnormal PE/Chem/CBC/UA Results: 11/3/21 ALT 119, ALP 483 2/3/22 ALT 135, ALP 696, T4 0.7

## 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>	5.2	<2.0	NM	1.38	50.9	85.9	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				
<b>PATIENT</b>	NM	1.2	1.0		2.4	1.83	

## INTERPRETED BY

Andrea Nicastro, DVM,  
 Diplomate ACVIM  
 (Small Animal Internal  
 Medicine)

## IMAGING PERFORMED BY

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 (Small Animal Internal  
 Medicine)

## HOSPITAL NAME

Sun Dog Cat Moon

## REFERRING VET

Dr. Kim Wilson

## INVOICE

35666

## DATE

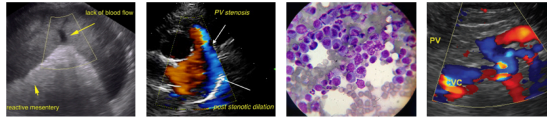
2/15/22

## 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. No evidence of chordae tendineae rupture or valvular prolapse noted. 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 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.

## ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)



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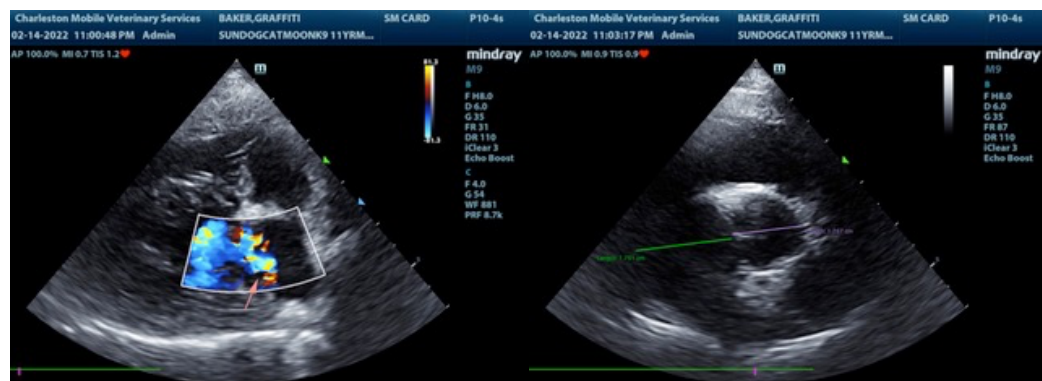
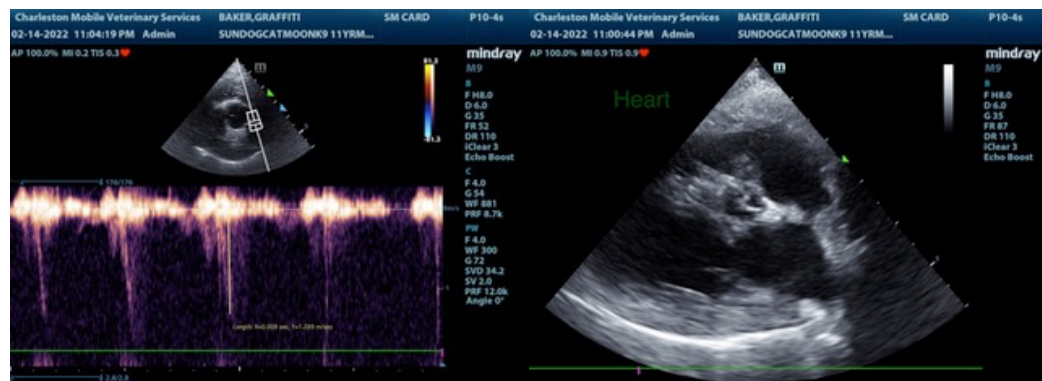
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is consistent with chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement at this stage indicates that the relative risk for complication is low. However, prognosis at this stage is highly variable. In a non-clinical patient without evidence of chamber enlargement, cardiac medications are not specifically indicated. Pimobendan may prove beneficial at prolonging cardiac changes associated with mitral valve insufficiency. However, conservative monitoring at this stage would be appropriate. Recheck echocardiogram suggested in 6 months to monitor for evidence of progression, sooner if clinical signs arise.



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)**

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