



## PATIENT

Chewy Pinder

## SPECIES

Canine

## BREED

Shih-Tzu

## SEX

M/N

## AGE

13 years

## WEIGHT

7.1 kg

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Dave Stasiuk RDMS,  
RDCE

## HOSPITAL NAME

Glamorgan AC

## REFERRING VET

Glamorgan AC

## INVOICE

14862

## DATE

8/17/23

## PRESENTING CLINICAL SIGNS

Acute onset of cough. Assess for cardiac disease

## 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)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT		2.9	1.2	1.4	46	84	0.22
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	NM	1.0	0.56		3.0	2.7	

### 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 moderate thickening consistent with endocardiosis. The mitral valve inflow patterns are within normal limits. The E wave measures 0.98 m/sec, the A wave measures 0.92 m/sec in diastole, respectively. This indicates that the patient is NOT in left sided congestive heart failure. Normal values: E wave peak velocity (Early Diastolic Filling of LV) 0.6-1 m/sec. A-wave peak velocity (Atrial Contraction) 0.4-0.7 m/sec. Normal E wave velocity < 1.0 m/sec, Left Volume Overload 1-1.4 m/sec, Left CHF > 1.4 mm/sec. Normal E/A ratio 1-2. Doppler indicated moderate 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 mild thickening with mild TR 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.



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## ULTRASONOGRAPHIC FINDINGS

- Compensated chronic mitral valve disease (ACVIM B1)
- Normal RA/RV - no evidence of cor pulmonale
- Mild TR - estimated pulmonary pressure gradient approximately 36 mm Hg, suggestive of mild increased pulmonary pressure without evidence of clinical pulmonary hypertension

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The lack of LA / LV enlargement indicates that the current and future risk of complications secondary to MR at this stage is low. Without evidence of clinical pulmonary hypertension or additional clinical issues such as left or right heart chamber enlargement or LV systolic dysfunction, the acute onset of coughing in this patient is noncardiogenic in origin.

There is no indication for cardiac medications at this stage, although prognosis may be considered variable. As-needed respiratory support is suggested. Consideration for primary lower airway disease is indicated. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with heart disease i.e., exercise intolerance, increased resting respiration rate, etc., are noted.

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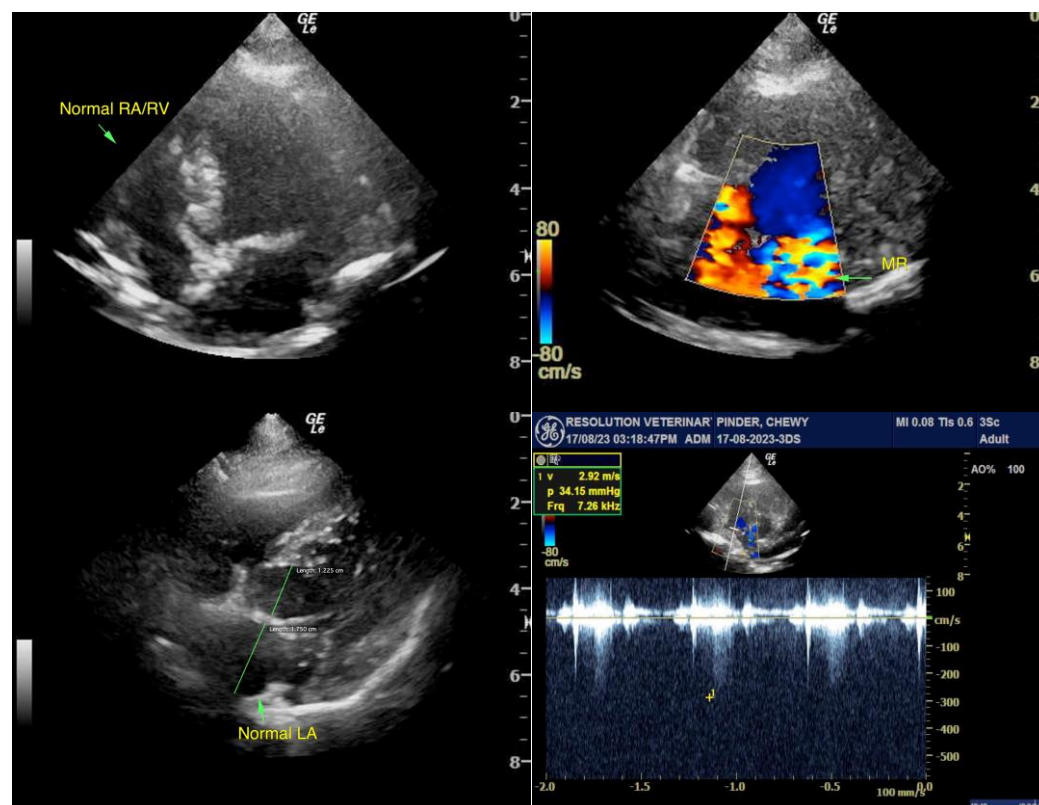
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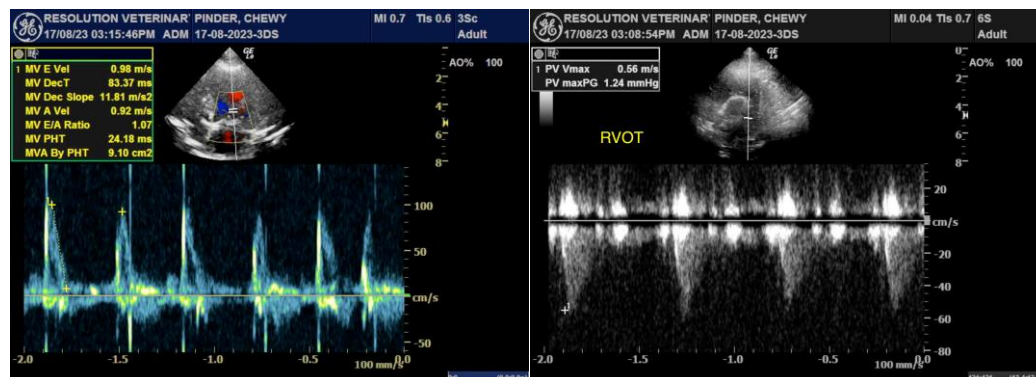
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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