



## PATIENT

Chip Fasano

## SPECIES

Canine

## BREED

Chihuahua

## SEX

MN

## AGE

5 years

## WEIGHT

15 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Diane McFadden

## HOSPITAL NAME

North Warren AH

## REFERRING VET

Dr. Corrado

## INVOICE

## DATE

12/3/21

## PRESENTING CLINICAL SIGNS

rads show enlarged heart; patient is coughing/gagging. On pimobendan 5mg/ml, 0.4ml bid and furosemide 12.5 mg x 1/2 bid

## 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	<1.6	28-40	40-100	<0.6
PATIENT			NM	1.55	7.0	16.3	0.7
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	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	0.8	0.6		3.1	2.6	

## Cardiac Presentation

The echocardiogram for this patient demonstrated mildly enlarged **left atrial size** expressed in 2 different LA measurement methods. Left atrial content was anechoic without evidence of "smoke" or thrombotic formation. The atrial septum was mildly deviated potentially owing to mildly increased left atrial pressure. The cranial and caudal **mitral valve** leaflets presented normal linear structure yet mild insufficiency was noted. The **left ventricle** demonstrated excessive volume (LVIDd measurement above). Ventricular function was significantly subnormal expressed by the fractional shortening measurement listed above. Myocardium was sonographically normal. 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. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Increased left ventricle volume, mild left atrial enlargement
- Significantly decreased left ventricle systolic function
- Mild mitral valve insufficiency

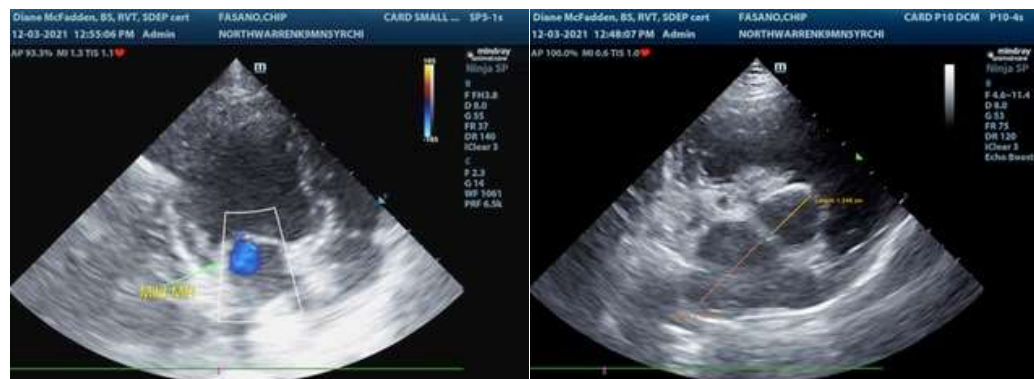
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The echocardiogram is consistent with DCM-like cardiomyopathy with significant LV systolic dysfunction. Potentially, this could be primary in nature but possibly secondary to taurine deficiency, hypothyroidism, myocarditis, or less likely infiltrative disease such as lymphoma. Additionally, the sedation may be a contributing factor to the LV systolic dysfunction.

Diet history is recommended while T4 and troponin levels may be considered. Ideally, recheck sonogram without sedation is recommended for true cardiac assessment.

Given the lack of significant left atrium enlargement and without overt evidence of clinical pulmonary hypertension, the coughing in this patient may be multifactorial in origin with some contribution possibly owing to lower airway disease.

Continued Pimobendan 0.3 mg/kg PO BID is warranted while diuretic therapy is suggested if clinical evidence of congestion or pulmonary edema. Recheck echocardiogram is suggested in 2-3 weeks. Ideally without Alpha-2 Agonists if sedation is required.





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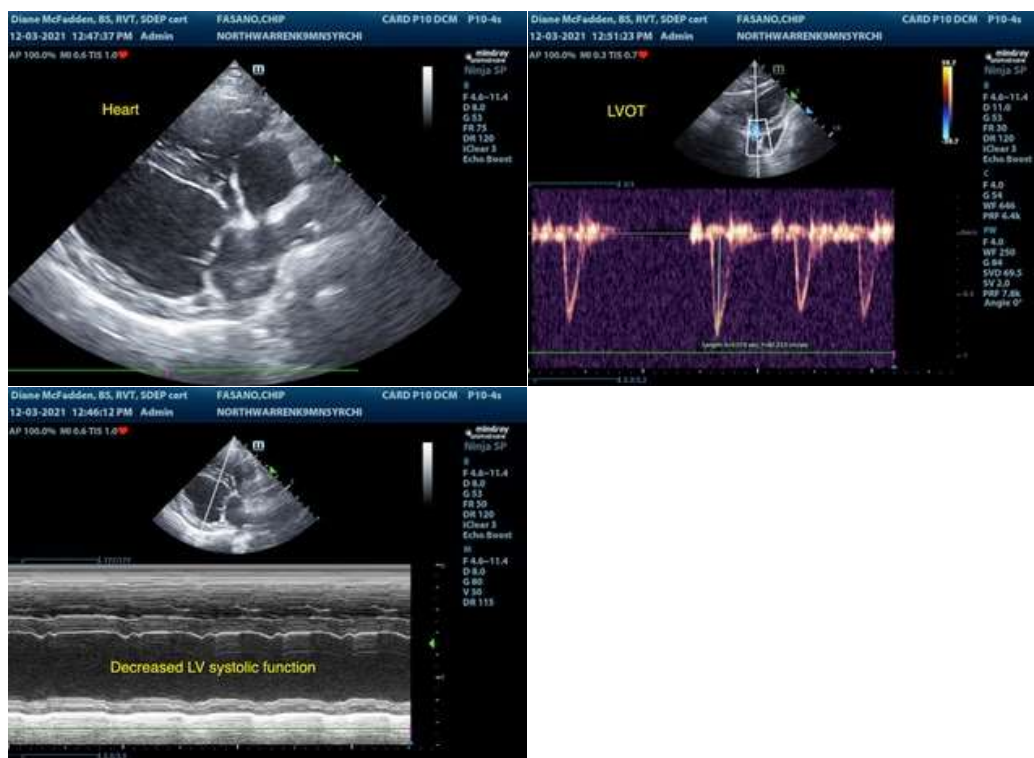
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com