



**PATIENT**

Marvel Capasso

**SPECIES**

Canine

**BREED**

Pomeranian

**SEX**

Spayed Female

**AGE**

10 Years

**WEIGHT**

13.5 pounds

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP (Canine  
/ Feline Practice)

**IMAGING PERFORMED BY**

Shar Reffi, CVT

**HOSPITAL NAME**

Family Veterinary  
Services

**REFERRING VET**

Dr. Sasha Romoleroux-  
Sanchez

**INVOICE**

12186

**DATE**

11/10/25

**PRESENTING CLINICAL SIGNS**

Grade IV systolic heart murmur; L sided cardiac enlargement. Started on steroids by referral hosp. for ossifying pulmonary metaplasia. Great results ~1m, now coughing w/suspected CHF. Crackles audible on auscultation 10/31/25. Receiving Pimobendan 1.875 po bid; Enalapril 5mg bid; Prednisolone 2.5mg eod; Theophylline 100mg bid; Furosemide 10mg/ml (1ml sid); Torburtol 0.2mg/kg iv for scan.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	5.0	3.2	NM	2.6	38	68	0.34
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LAD LA MAX 4 Chamber	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	1.1	0.62	--	4.1	3.3	--

**Cardiac Presentation**

The echocardiogram in this patient demonstrated severe increased **left atrial** dimension based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented mild thickening consistent with mild endocardiosis. No evidence of valvular prolapse or cordate tendon rupture. Doppler indicated measurable severe eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour and significant increased LV dimension and sphericity. 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 TV insufficiency 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 cardiac / pericardial tumors was visible. No evidence of arrhythmia or hepatic congestion.

**ULTRASONOGRAPHIC FINDINGS**



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- Chronic mitral valve disease with left heart volume overload (ACVIM stage C).
- Mild pulmonary hypertension, no evidence of hepatic congestion.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The degree of LA/LV enlargement is consistent with left heart volume overload and congestive criteria. The mild pulmonary hypertension with estimated pulmonary pressure gradient of approximately 40 mm of mercury is not suspected to be a clinical issue at this stage and without evidence of right heart or pulmonary artery enlargement or hepatic congestion. Triple therapy with continued Pimobendan and ACE inhibitor with suggested combination Lasix/Spironolactone both 1.0 to 2.0 mg/kg PO BID is recommended. From a cardiac perspective, discontinuation of steroid therapy would be ideal, however, given concurrent pulmonary metaplasia and if required, lowest effective dose of steroid therapy is recommended. Mild salt restriction and Omega fatty acids supplementation may prove beneficial. Elective anesthesia is not advised. If required, the following protocol is suggested with judicious IV fluid use and limited anesthetic time. Prognosis is highly guarded going forward as this patient is at significant increased risk for progressive CHF, development of malignant arrhythmia i.e. atrial fibrillation and progressive pulmonary hypertension. Serial sonographic monitoring is advised with recheck echo suggested in 4-6 months or sooner if progressive clinical signs. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

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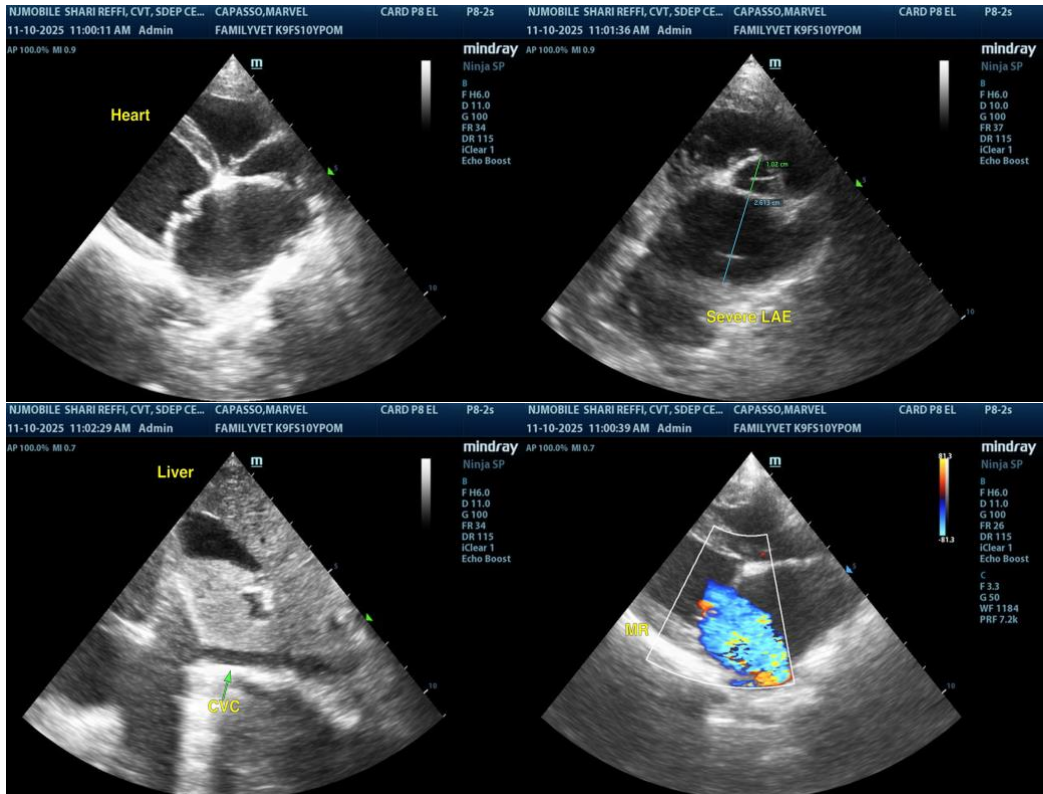
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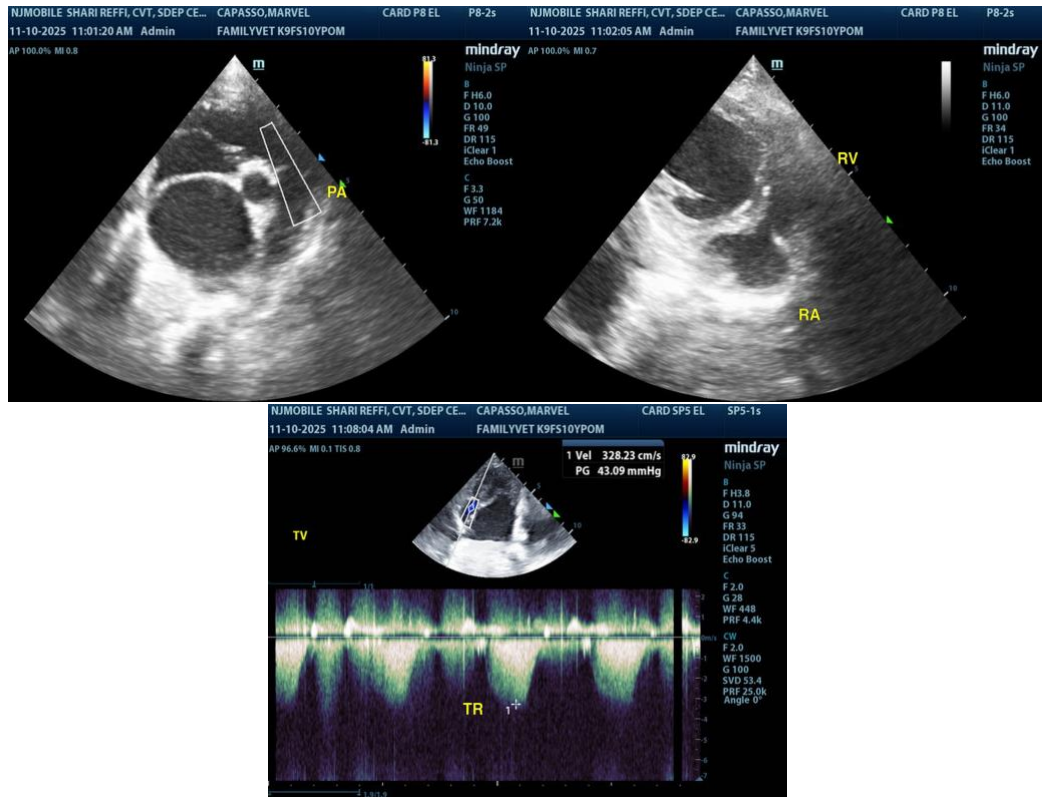
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

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