



## PATIENT PRESENTING CLINICAL SIGNS

Rocky Martin

### SPECIES

Canine

### BREED

Chihuahua

### SEX

Neutered male

### AGE

11 years

### WEIGHT

6.6 lbs

### INTERPRETED BY

Eric Lindquist, DMV,  
DABVP, Cert. IVUSS

### IMAGING PERFORMED BY

Jenna Walsh, CVT

### HOSPITAL NAME

VCA McKenzie AH

### REFERRING VET

Dr. Arpaia

### DATE

12/15/21

Invoice  
94623

History: client has reported a suddenly worsening cough (Started ~Dec 5th2021), C started P on Hydrocodone for cough suppressant (once daily) but has only noted mild improvement. Blood pressures, thoracic radiographs, ECG to be completed 12/15/21 with echocardiogram Grade 5/6 systolic murmur, initial diagnosis 4/8/21 chronic degenerative mitral valve disease ACVIM stage B2 Blood Pressure Measurements 11/22/21 BP: 164/116/125 (avg) Current Medications Spironolactone 4mg BID, Vetmedin 0.625mg BID,, hydrocodone one time daily, Furosemide 10mg AM/5mg PM, Standard Process Cardiac Support powder, Enalapril 1.25mg BID  
Abnormal PE/Chem/CBC/UA Results: 11/23/21 labwork BUN 40, BUN/CREA Ratio 36. PLT 403, NEU 59, Trace protein in urine

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated enlarged **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 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** insufficiency was noted and consistent with mild pulmonary hypertension. 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.

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
CARDIAC	VMAX	VMAX	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
PARAMETERS	(m/s)	(m/s)					
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.6	3.6	NM	1.9	54	87	0.1
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
CARDIAC	(BPM)	VMAX	MAX		2D short axis Base view	Avg; 2D and m-mode short axis	Avg; 2D and m-mode short axis
PARAMETERS		(m/s)	(m/s)		(cm)	(cm)	(cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	187	1.5		6.6 lbs	3.4	2.63	



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**ULTRASONOGRAPHIC FINDINGS**

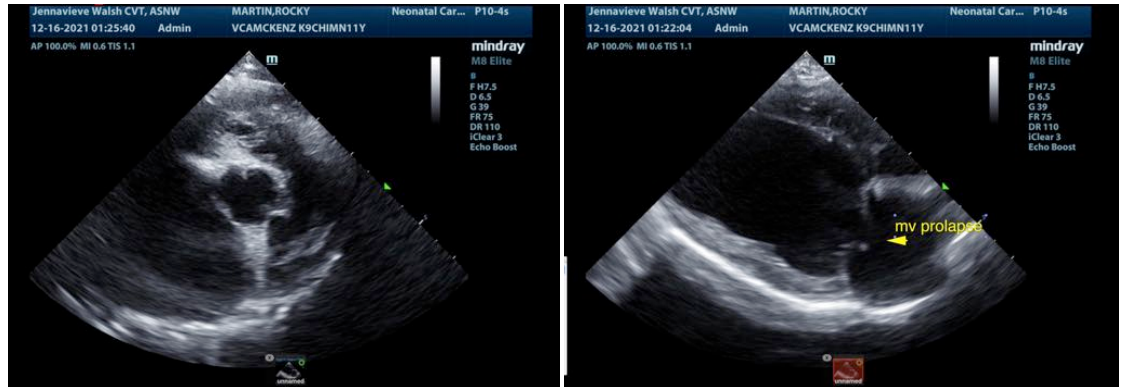
Advanced stage B2 valvular disease with volume overload of the left atrium, mitral and tricuspid insufficiency as well as early pulmonary hypertension.

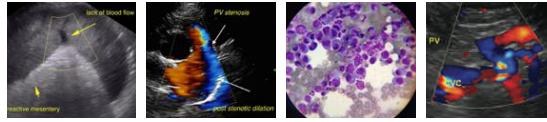
Prolapse of the anterior mitral valve leaflet was noted.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

I recommend to continue ace inhibitor therapy at 0.5 mg/kg b.i.d., Pimobendan can be utilized at 0.3 mg/kg b.i.d. Spironolactone is recommended at 1-2 mg/kg b.i.d. If coughing, exercise intolerance or increased basal respiratory rate is > 20/minute then Lasix therapy can be considered at 1-2 mg/kg b.i.d. A recheck echocardiogram is recommended in a month. I am concerned for potential rapid decline in this patient owing to mitral valve prolapse and the current tachycardia. The patient should be monitored carefully.

Advanced B2/early C1 valvular disease was noted. A recheck echocardiogram is recommended in a month. The respiratory rate should be maintained under 25 respirations/minute. After 5-7 days after adjustment of medication I recommend recheck of the renal values, blood pressure measurements and chest radiographs.





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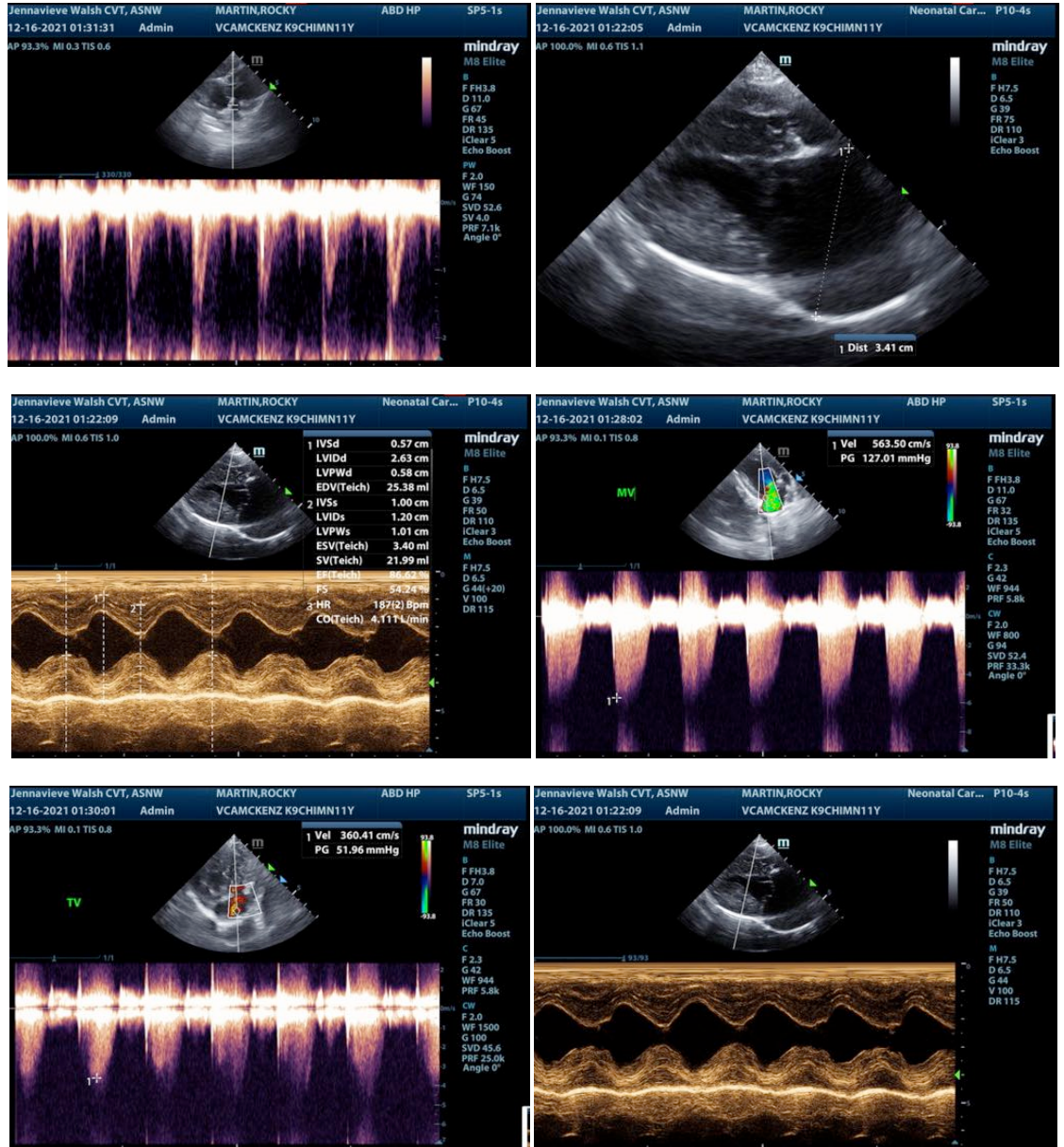
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist, DMV, DABVP, Cert. IVUSS**



**PATIENT**

CEO of Sonopath.com

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Eric.Lindquist@SonoPath.com

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