



## PATIENT

Peaches Chao

## SPECIES

Canine

## BREED

Chihuahua Mix

## SEX

Female Spayed

## AGE

18 years

## WEIGHT

8.8lbs

## INTERPRETED BY

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

## IMAGING PERFORMED BY

Amanda Lacey-Crook, SDEP

## HOSPITAL NAME

Rivers Edge Pet Medical Center

## REFERRING VET

Dr. Gibson

## INVOICE

24696

## DATE

6/9/22

## PRESENTING CLINICAL SIGNS

History: Grade 5/6 heart murmur with crackles and wheezes. Assess prior to dental.

-Current medications: Clindamycin 25mg- Give 1 ml by mouth every 12 hours Meloxicam 1.5mg- Give to the 7 # dosing every 24 hours Gabapentin 100mg- Give 0.35ml by mouth every 8-12 hours as needed (client is not giving at this time).

BP: 174, 170, 178mmHg.

-Sedation: Butorphanol.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only. Cardiomegaly. No obvious evidence of CHF.

## ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 5mm/mV. The average heart rate is 78bpm (range 55-100bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation (sedated).

## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with minimal prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Borderline LV with adequate myocardial function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension. Normal right atrial and ventricular diameter. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

## CARDIAC CHART

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	5.9	3.5	NM	1.7	44	77	NM
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	96	1.0	1.0	4.0	2.2	2.5	1.4
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)

Adapted from June Boon, Veterinary Echocardiography, 1998



## PATIENT

Peaches Chao

Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435	30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002	35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
	50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

## SPECIES

Canine

## BREED

Chihuahua Mix

## SEX

Female Spayed

## AGE

18 years

## WEIGHT

8.8lbs

## INTERPRETED BY

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

## IMAGING PERFORMED BY

Amanda Lacey-Crook, SDEP

## HOSPITAL NAME

Rivers Edge Pet  
Medical Center

## REFERRING VET

Dr. Gibson

## INVOICE

24696

## DATE

6/9/22

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and mild tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication, however risk for progression to spontaneous congestive heart failure in the future is elevated. Mild to moderate pulmonary hypertension is noted which should be monitored going forward. No additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.

Given the risk for progression and results of the EPIC trial, Pimobendan is indicated in this patient as below. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).

No respiratory signs are noted on exam; however, crackles and wheezes are likely consistent with underlying airway disease. This should be monitored going forward, as this is the likely cause of pulmonary hypertension in this case. It is important to note that PAH does not cause the respiratory signs; rather the respiratory disease leads to its genesis. No indication for Sildenafil, in the absence of associated clinical signs (exertional dyspnea or collapse); however, monitoring is advised.

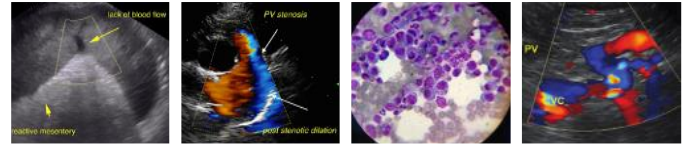
Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

Once on the medication for 3-5 days, anesthetic risk is considered mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

## PLAN

Institute heart muscle support Pimobendan 0.25-0.3mg/kg PO q12h. If respiratory signs are noted, Theophylline, Hydrocodone, etc. may be warranted.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.



**PATIENT**

Peaches Chao

**SPECIES**

Canine

**BREED**

Chihuahua Mix

**SEX**

Female Spayed

**AGE**

18 years

**WEIGHT**

8.8lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Amanda Lacey-Crook, SDEP

**HOSPITAL NAME**

Rivers Edge Pet  
Medical Center

**REFERRING VET**

Dr. Gibson

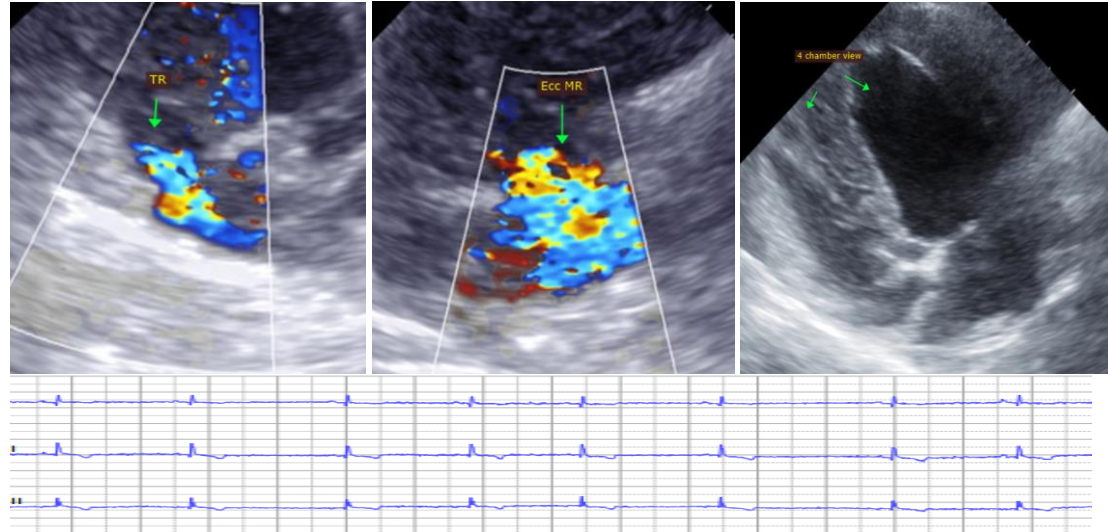
**INVOICE**

24696

**DATE**

6/9/22

**IMAGES**



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. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**Maggie Machen Lamy, DVM**  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com