

PATIENT

Carl Gardner

SPECIES

Canine

BREED

Miniature Pinscher

SEX

Neutered Male

AGE

13 Years

WEIGHT

17.6 Pounds

INTERPRETED BY

Sara Brethel, DVM,
DACVIM (Cardiology)

IMAGING PERFORMED BY

Kathleen Byrnes

HOSPITAL NAME

Midway AC

REFERRING VET

Dr. Lakey

INVOICE

36097

DATE

3/3/26

PRESENTING CLINICAL SIGNS

- P presented for echo due to murmur. Owner reports occasional coughing
- Currently on Vetmedin, Enalapril, Spironolactone.
- Owner very interested in Mitral Valve repair surgery but unable to travel to Japan or Austria.

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	5.94	2.77	NM	2.4	40.43	72.25	NM
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	138	2.29	1.09	8.0	4.37	3.44	2.05

ECG Interpretation

Sinus rhythm with occasional isolated monomorphic ventricular premature complexes displaying a left bundle branch morphology.

Cardiac Presentation

The mitral valve leaflets are moderately thickened with moderate mitral regurgitation posteriorly directed. There is moderate prolapse of the mitral valve leaflets. The left atrial size is severely increased. Left ventricular internal dimensions during diastole are increased and systolic function is preserved in the face of mitral regurgitation. There is normal right atrial size with mild tricuspid regurgitation. There is no prolapse of the tricuspid valve leaflets and mild pulmonary hypertension based upon tricuspid regurgitant velocities. The right ventricle subjectively appears normal in structure and function. The aortic and pulmonic valves have normal morphology and the corresponding outflow velocities are within normal limits. There is trace pulmonic insufficiency. There is no aortic insufficiency. The aorta appears normal. The pulmonary artery and associated branches appear normal. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses.

ULTRASONOGRAPHIC FINDINGS



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- Degenerative valve disease, ACVIM stage B-2
- Severe left atrial enlargement
- Mild pulmonary hypertension
- Trace pulmonic insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient has degenerative valve disease ACVIM stage B-2 and is having occasional isolated VPCs. The cause of the VPCs is not known. Can consider performing a Holter monitor on the patient, ensuring full blood work is normal (including a T4 and consider an abdominal ultrasound for investigation as to why the patient is having VPCs), and if further intervention and/or therapy is needed.

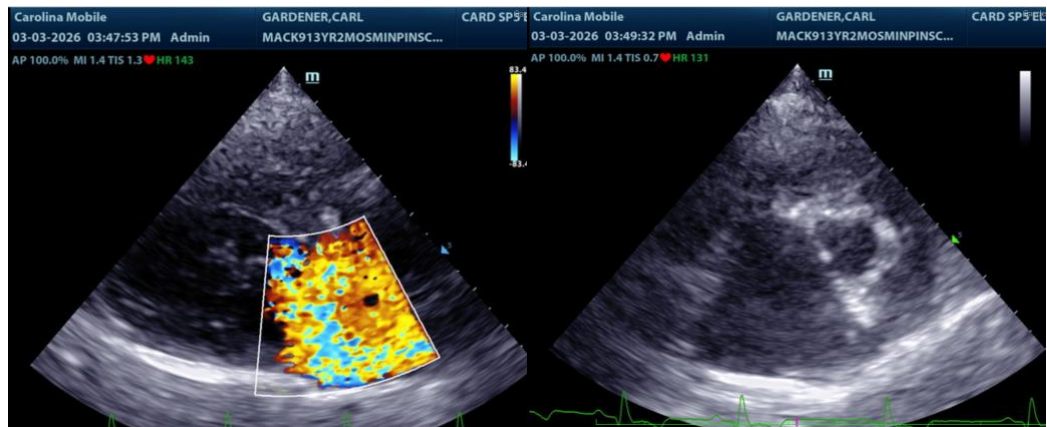
Currently, the patient is not a candidate for mitral valve repair, as the patient is not on diuretic therapy and has not had an episode of congestive heart failure. There are other minimally invasive procedures available such as trans catheter edge-to-edge repair (TEER). If the client is truly interested in surgical options, I recommend referral to a veterinary cardiologist for continued management and further discussion into surgical interventions and options available.

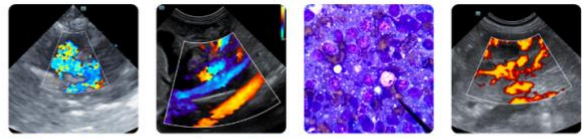
If not, moving forward with surgery, a recheck echo is recommended in six months.

Recommend ensuring the patient is on at least 0.27 to 0.32 mg/kg pimobendan, every 12 hours.

The client should start monitoring respiratory rate and effort at home if not already doing so. The resting respiratory rate should be < 35-40 breathes/minute when the patient is resting or sleeping. If the breathing rates are increasing, then chest radiographs are recommended.

Recommend obtaining a blood pressure on the patient to ensure it is <160mmHg. If the blood pressure is elevated recommend following ACVIM guidelines for systemic hypertension and treating if indicated.





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Carl Gardner 03/03/2026 | 15:46:28-15:46:37 | 25 mm/second 10 mm/mV



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.

Sara Brethel DVM, DACVIM (Cardiology)

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