



PATIENT

Max Garcia

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

14 Years 7 Months

WEIGHT

7.16 kg

INTERPRETED BY

James Wood, DVM,
DACVIM (Cardiology)

IMAGING PERFORMED BY

Dr. Greg Kuhlman

HOSPITAL NAME

Red River AEH & RC

REFERRING VET

Dr. Greg Kuhlman

INVOICE

37236

DATE

5/28/26

PRESENTING CLINICAL SIGNS

History: Max is a 14-year-6-month-old neutered male Yorkshire Terrier referred for echocardiographic evaluation of progressive heart disease with a longstanding left-sided systolic heart murmur first noted on 06/24/2021, now grade 4/6 on today's exam. Clinical history also includes pancreatitis, benign prostatic hyperplasia, osteoarthritis/cervical spine arthritis, prior low-grade mast cell tumor excision, chronic dental disease, intermittent azotemia, and chronic mild ALT elevation. Current medications include Pimobendan 2 mg PO q12h, Cardalis 20 mg/2.5 mg PO SID with food, Denamarin Advanced daily, and Furosemide 10 mg PO every 48–72 hours PRN for CHF signs, although this is used infrequently due to prior azotemia. Intermittent coughing persists but has improved and is primarily associated with excitement or activity.

Abnormal PE/Chem/CBC/UA Results: Blood pressure prior to echo: 146 mmHg

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	LA long axis	LAmxN	Ao long axis	LA/AO (Heart Base; Swe, short axis)	LA/AO long axis	LVIDd	LVIDdN
NORMAL PARAMETER		<1.57		<1.6	<2.5		<1.7
PATIENT	2.71	1.48	--	1.5	--	2.6	1.4
CARDIAC PARAMETERS	Body Weight (kg)	AV VMAX (m/s)	PV MAX (m/s)	MR VMAX (m/s)	TR VMAX (m/s)	FS (%)	LVIDsN
NORMAL PARAMETER		0.7-1.7	0.7-1.6			22 - 49%	<0.9
PATIENT	7.16	1.1	1.02	5.7	3.0	57.9	0.51
CARDIAC PARAMETERS	HR (bpm)	MV E (m/s)	MV A (m/s)	MV E/A (m/s)	EF (%)	IVSdN	LVFWdN
NORMAL PARAMETER						<0.6	<0.6
PATIENT	115	0.47	0.57	0.8	--	0.55	0.35

Cardiac Presentation



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The mitral valve leaflets are moderately thickened with mild eccentric and posteriorly directed mitral valve insufficiency. There is mild anterior leaflet prolapse. The left atrial size is normal. Left ventricular internal dimensions during diastole are within normal limits and the global left ventricular systolic function is normal. Transmitral inflow E and A waves suggest a delayed relaxation pattern of left ventricular diastolic filling. There is normal right atrial size with mild tricuspid regurgitation. There is no prolapse of the tricuspid valve leaflets. There is mild pulmonary hypertension based upon tricuspid regurgitant velocities. The right ventricle subjectively appears normal in structure and function. The aortic and pulmonary valves have normal appearance and motion, and the corresponding outflow velocities are within normal limits. There is no evidence of pulmonary or aortic valve 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

- Myxomatous mitral valve disease- Normal LA and LV dimension on pimobendan and intermittent furosemide.
- Mild pulmonary hypertension
- Intermittent cough- suspect noncardiogenic

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram showed evidence of myxomatous mitral valve disease without significant left-sided chamber enlargement. The reported cough is not suspected to be due to congestive heart failure. In the future, should the patient develop progressive cough or tachypnea, thoracic radiographs are strongly recommended to rule out left-sided congestive heart failure (this less likely based on this echocardiogram).

Although the left-sided chamber dimensions are normal, chamber size reduction on pimobendan and furosemide is possible. The furosemide is likely not necessary and should not be continued unless cardiogenic pulmonary edema is confirmed on thoracic radiographs. Similarly, there is unlikely to be a benefit from Cardalis, and this may also be contributing to the azotemia. Pimobendan can be continued at 2.0 mg PO Q-12. Underlying airway disease is the suspected cause of coughing and treatment should be aimed at underlying airway disease. Recheck echocardiogram in 6 months, or sooner if concerns arise.





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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.

James Wood, DVM, DACVIM (Cardiology)

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