



**PATIENT**

Ozzie Kelleher

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Male Neutered

**AGE**

11 years

**WEIGHT**

15lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Tom McNeill

**HOSPITAL NAME**

SVS Imaging CT

**REFERRING VET**

Dr. Kreier

**INVOICE**

23522

**DATE**

4/7/22

**PRESENTING CLINICAL SIGNS**

History: Grade 3/6 systolic murmur. Recent history of coughing and increased respiratory rate while resting. History of diabetes mellitus and IBD, and allergies. Receiving insulin, prednisolone, tramadol, and denamarin.

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

**ELECTROCARDIOGRAPHIC FINDINGS** \*Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.  
A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 190bpm (range 180-214bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus tachycardia.

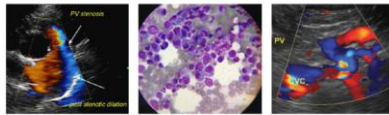
**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Severe diffuse nodular thickening of mitral valve leaflets. Mild prolapse of the anterior leaflet into the left atrial lumen. Ruptured chordae tendinae (see below) suspected. Severe eccentric mitral regurgitation with severe left atrial enlargement. MR velocity is decreased. The LV dilated with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. No significant right heart enlargement. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency noted. Scant pericardial effusion seen. No pleural effusion seen. No obvious cardiac tumors.

**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	4.5	NA	2.8	2.2	52	83	0.16
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	160	1.6	0.8	6.8	3.2	3.9	1.9
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				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)

Adapted from June Boon, Veterinary Echocardiography, 1998  
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
Hansson et al, Vet Rad and Ultrasound 2002  
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

**PATIENT**

Ozzie Kelleher

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Male Neutered

**AGE**

11 years

**WEIGHT**

15lbs

**INTERPRETED BY**Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)**IMAGING PERFORMED BY**

Tom McNeill

**HOSPITAL NAME**

SVS Imaging CT

**REFERRING VET**

Dr. Kreier

**INVOICE**

23522

**DATE**

4/7/22

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial and ventricular dilation indicate the risk for spontaneous congestive heart failure is elevated and this patient is at high risk for decompensation. The finding of a ruptured chord is concerning for acute changes, and long-term prognosis is guarded to poor with likely progression to CHF in the future. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. The ECG is unremarkable with a normal sinus tachycardia.

Based upon this risk, the finding of scant pericardial effusion and reported clinical signs, full lifelong cardiac support is recommended as below even without obvious CHF on the chest radiographs. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

Elective anesthesia is not advised.

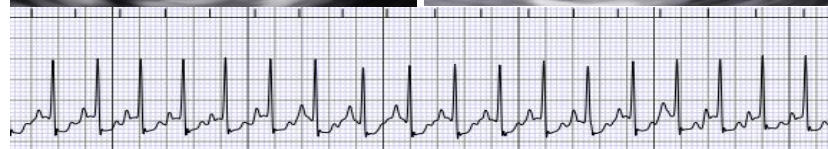
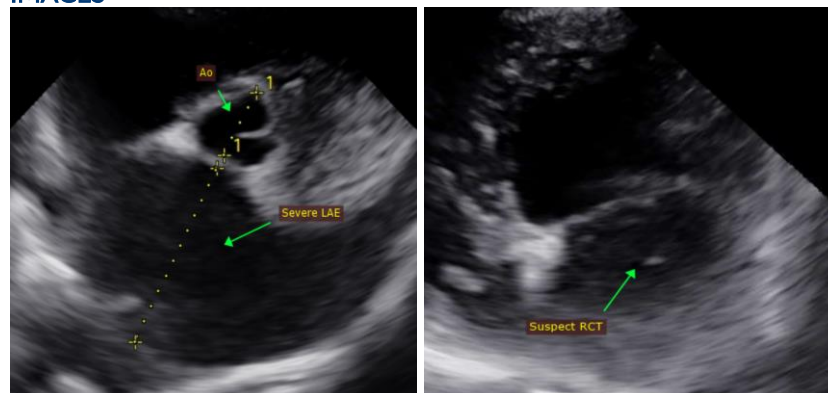
Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or collapse episodes. Mild activity restriction is advised.

**PLAN**

Screening BP is recommended. Institute Pimobendan 0.3mg/kg PO q12h. Institute ACE-I (benazepril or enalapril) 0.5mg/kg PO q12h. Institute Lasix 1-2mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Hydrocodone can be utilized if needed for quality of life.

A renal panel/ BP is recommended in 10-14 days following institution of medications, then every 3-4 months lifelong.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs persist/arise.

**IMAGES**

**IMAGING PERFORMED BY**

svsmobileimaging.com 309-737-3070



EDUCATIONAL TELECONSULTATION SERVICES™

1-800-838-4268 info@sonopath.com SonoPath.com

**PATIENT**

Ozzie Kelleher

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.

**SPECIES**

Canine

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.

**BREED**

Yorkshire Terrier

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

**SEX**

Male Neutered

**AGE**

11 years

**WEIGHT**

15lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Tom McNeill

**HOSPITAL NAME**

SVS Imaging CT

**REFERRING VET**

Dr. Kreier

**INVOICE**

23522

**DATE**

4/7/22