

PATIENT

Berkeley Dye

SPECIES

Canine

BREED

Beagle/ King Charles Mix

SEX

Female Spayed

AGE

2009

WEIGHT

25.2lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

HOSPITAL NAME

Warm and Fuzzy
Veterinary Center

REFERRING VET

Dr. Hepner

INVOICE

20

DATE

8/17/21

PRESENTING CLINICAL SIGNS

History: First diagnosed w murmur on 09-Sep 2020. No work up pursued. Seen on 30-Jul 2021 for possible seizure activity. After further discussion it was found to be syncope. Patient had significant grade 6/6 systolic murmur and was diagnosed with heart failure on radiographs that day.

-Pertinent abnormal PE/Chem/CBC/UA Results: 4dx neg. CBC Showed mildly elevated Neutr and Monocytes. Chem creat 1.4, BUN 25 (both high normal). Owner to drop off urine sample. Neutrophils 14.03 (2.94 - 12.67 K/ μ L). Lymphocytes 1.54 (1.06 - 4.95 K/ μ L). Monocytes 1.488 (0.13 - 1.15 K/ μ L).

-Current medications: All started on July 30: Pimobendan (Vetmedin) 2.5mg tablet 50ct bottle Give 1.5 tabs by mouth every 12 hours. Enalapril 2.5mg tablet Give 2 tablets by mouth every 12 hours. Furosemide 20mg tablet Give 1 tablet by mouth every 12 hours for maintenance

-Sedation used: Not needed.

-STAT: Not requested.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is markedly thickened with prolapse into the left atrial lumen. A primary ruptured chord is visualized. Flail leaflet. Lack of coaptation in systole. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is marked left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is not significantly dilated. No significant right atrial or ventricular dilation. The tricuspid valve is thickened with septal prolapse and mild tricuspid regurgitation. Mildly elevated pulmonary pressures. No pericardial/pleural effusion or cardiac masses are seen.

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	5.3	2.9	NM	2.6	46	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	167	1.3	0.52	11.4	4.1	4.7	2.6
*Normal chamber parameters expressed as a mean value				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)
				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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. A ruptured primary chord is visualized, which is the likely cause of the recent syncope and decompensation. Marked left atrial and ventricular enlargement indicate the risk for spontaneous congestive heart failure is elevated. Early hypertension is noted which is not surprising given the severity of disease. No additional issues are identified.

These findings would certainly suggest that lifelong cardiac support is indicated going forward. The average survival of canine patients at this stage is 8-9 months on medications, however they generally are able to maintain a good quality of life. Going forward the risk will remain high for recurrent CHF, development of arrhythmias and sudden death, and close monitoring is 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. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home. Elected anesthesia is not advised.

PLAN

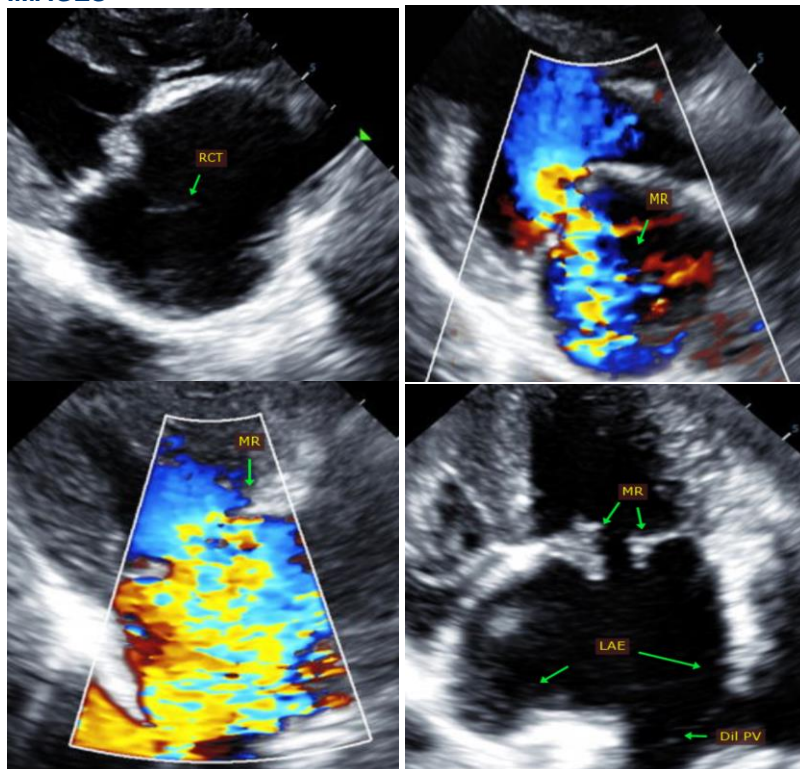
Administer furosemide 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12 hours. Administer spironolactone 1-2mg/kg PO q12h.

A renal panel and BP are recommended in 10-14 days to ensure tolerance of medications, then every 3-4 months lifelong. If BP is >130mmHg and patient is doing well, institute ACEI 0.5mg/kg PO q12h.

If syncope persists, consider additional issues such as arrhythmias, BP swings, etc.

A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise/persist.

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)**