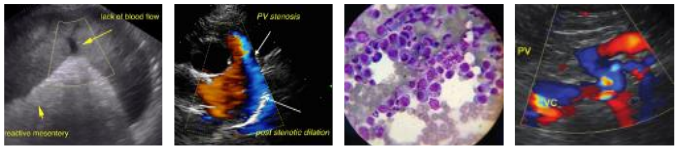
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Buffy Noriega

SPECIES
Canine

BREED
Doberman Pinscher

SEX
Female Spayed

AGE
12 years

WEIGHT
70.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Russman

INVOICE
20986

DATE
9/13/21

PRESENTING CLINICAL SIGNS

History: Recheck echo.
-Current medications: Enalapril, Furosemide, Pimobendan, Piroxicam, Incurin and Gabapentin.
-Pertinent previous echo findings (12/2019): LVIDd: 4.4, LVIDs: 3.6, FS: 18%. Mild LAE, AF and early CVD. Recommend Furosemide, Diltiazem, Pimobendan, Enalapril, Taurine, Carnitine & Fish oil.

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, 20mm/mV. The average heart rate is 100bpm (range 62-125bpm). No identifiable P waves with an irregularly irregular rhythm.
ECG diagnosis: Most consistent with atrial fibrillation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. No significant left ventricular dilation with decreased systolic function. Mildly increased sphericity. Moderate left atrial enlargement. The mitral valve appears thickened with no obvious prolapse into the left atrial lumen. Mild central mitral and no obvious tricuspid regurgitation. Mild right atrial and ventricular dilation. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic insufficiency. Normal pulmonic valve with no pulmonic insufficiency seen. Normal RVOT velocity. No pericardial or pleural effusion noted. No obvious cardiac tumors.

CARDIAC CHART

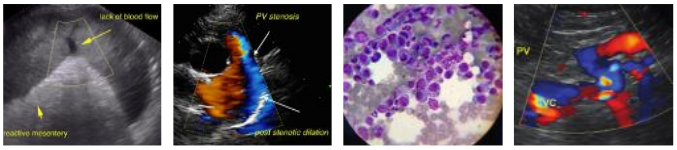
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NM	NM	NM	1.6	18	30	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**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	NM	NM	NM	32.0	4.3	4.4	3.6
*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)
				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

Largely stable DCM is identified in this study. Compared to the prior results, there is no obvious evidence of progression with moderate left atrial enlargement and a minimally dilated left ventricular. Mild MR persists and no additional issues are identified.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Buffy Noriega

SPECIES
Canine

BREED
Doberman Pinscher

SEX
Female Spayed

AGE
12 years

WEIGHT
70.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Russman

INVOICE
20986

DATE
9/13/21

The ECG shows atrial fibrillation which was also previously documented. The overall heart rate is low, yet no rate control medications are mentioned in the history. If this is the case, certainly no rate control is advised. If the patient is on Diltiazem as was previously recommended, the dose may need to be altered with a target average heart rate of 140-160bpm in hospital. Follow up is advised.

Regardless, this patient will always be at risk for progression to congestive heart failure and prognosis remains guarded. Typically, once Lasix is initiated the average survival time is <6 months, yet this patient has done exceedingly well.

Assuming the patient is doing well it is reasonable to continue these medications at standard dosing. Spironolactone potentially has some long-term benefit as well and can be considered. Cases of systolic failure are at high risk for malignant tachyarrhythmias (such as VT) and sudden death, and this should be expressed to the owner.

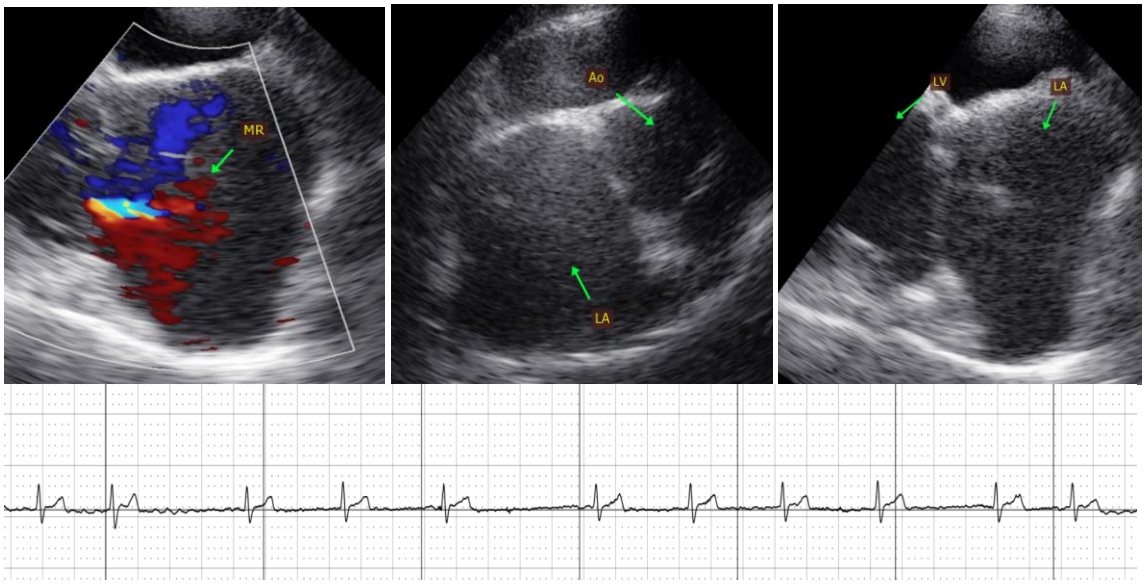
Monitor for development of a cough, worsening labored breathing, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to assess response to medications and recurrence of CHF in the future.

PLAN:
Recommend baseline blood pressure. Assuming patient is doing well, continue Lasix 1-2mg/kg PO q12h. Continue Pimobendan 0.3mg/kg PO q12h. Continue ACE-I pending BP measurement, 0.5mg/kg PO q12h. Consider initiate aldosterone antagonist Spironolactone 1-2mg/kg PO q12h. If Diltiazem is being administered this may need to be adjusted based upon low resting heart rate.

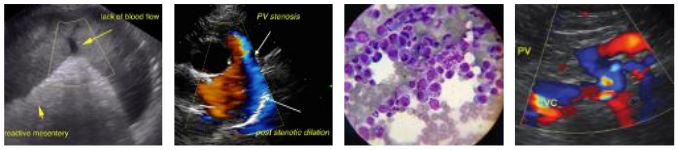
Recheck renal panel, heart rate, BP every 3-4 months.

Recheck echocardiogram/ECG in 6 months to reassess cardiac function.

IMAGES



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Buffy Noriega

SPECIES
Canine

BREED
Doberman Pinscher

SEX
Female Spayed

AGE
12 years

WEIGHT
70.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Russman

INVOICE
20986

DATE
9/13/21

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