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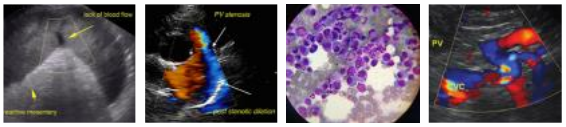


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Peaches Bender

SPECIES
Canine

BREED
Toy Poodle

SEX
Female Spayed

AGE
8 years

WEIGHT
6.6lbs

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

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Eugene Animal Hospital

REFERRING VET
Dr. Polk

INVOICE
21640

DATE
10/20/21

PRESENTING CLINICAL SIGNS

History: Presented yesterday after apparent seizure, appeared post-ictal, responded well to midazolam rectally and patient brightened considerably throughout the day. Heart sounds NSF. Clear lungs, no dyspnea. Recent history of events, either neuro or cardio - open Increased cardiac sil. Brief US of heart by Dr. Polk revealed hypertrophic appearing walls with soft tissue echogenicity in pericardium.
-Abnormal PE/Chem/CBC/UA Results: BNP1364.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Globoid 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.

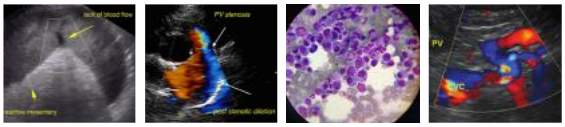
A single lead ECG is available; 25mm/s, 5mm/mV. The average heart rate is 170bpm with a regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is markedly thickened with significant prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is severe left atrial enlargement. The left ventricular diameter is normal with adequate myocardial function. The aortic valve appears trileaflet with normal mobility. Normal aortic outflow velocity. The main pulmonary artery is normal. The right heart is normal in dimension. The tricuspid valve is mildly thickened with trace tricuspid regurgitation. No pulmonic or aortic insufficiency. Small to moderate volume pericardial effusion. Elongated soft tissue lesion within the pericardial space most consistent with a thrombus. No pleural effusion. No obvious ascites. No cardiac tumors 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	4.5	NM	1.6	2.2	66	90	0.06
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	1.0	1.1	3.0	1.9	1.8	0.6
*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)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)



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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	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Severe chronic degenerative valve disease is causing severe mitral and trace tricuspid regurgitation. Severe left atrial dilation indicates the risk for spontaneous decompensation is elevated. No concurrent structural issues are identified such as pulmonary hypertension.

As an imminent complicating factor there is pericardial effusion present. The two most likely rule outs in a dog with valve disease include a LA tear or right-sided CHF. This patient appears to have a **thrombus present within the pericardial space which would confirm the former diagnosis.** Additionally, the right heart is largely normal ruling out severe right-sided congestive signs. A left atrial tear indicates a **highly unstable patient and hospitalization for supportive care is strongly recommended.**

The ECG is unremarkable with a normal sinus tachycardia; however, this patient is at high risk for malignant arrythmias, and ECG monitoring may be beneficial.

Recommend treating this patient with diuretic therapy and supportive care and monitor the amount of effusion in hopes of stabilizing the situation. If the amount of effusion increases or the patient further decompensates pericardial tap or humane euthanasia may become indicated.

Strict activity restriction is advised until the fluid is able to reabsorb, as there is a high risk for decompensation if the clot/healing is disrupted. If any syncope/decompensation occurs acutely in the future, then the amount should be reassessed.

Unfortunately, even if we are able to stabilize the situation, the long-term prognosis is poor to grave given the severity of disease and complexity of issues, with risk for recurrent spontaneous decompensation, fulminant heart failure, development of arrhythmias and/or sudden death in the future.

Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

Highly recommend hospitalization for supportive care as discussed, with close monitoring of degree of pericardial effusion/need for centesis, continuous ECG evaluation, blood pressure monitoring, diuretic therapy and O2 support if needed. Institute Pimobendan 0.3mg/kg PO q12h.

Once stabilized, discharge on the following: Institute furosemide 1-2mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Institute Pimobendan 0.3mg/kg PO q12h.

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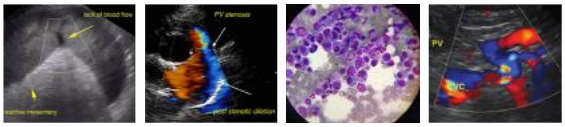

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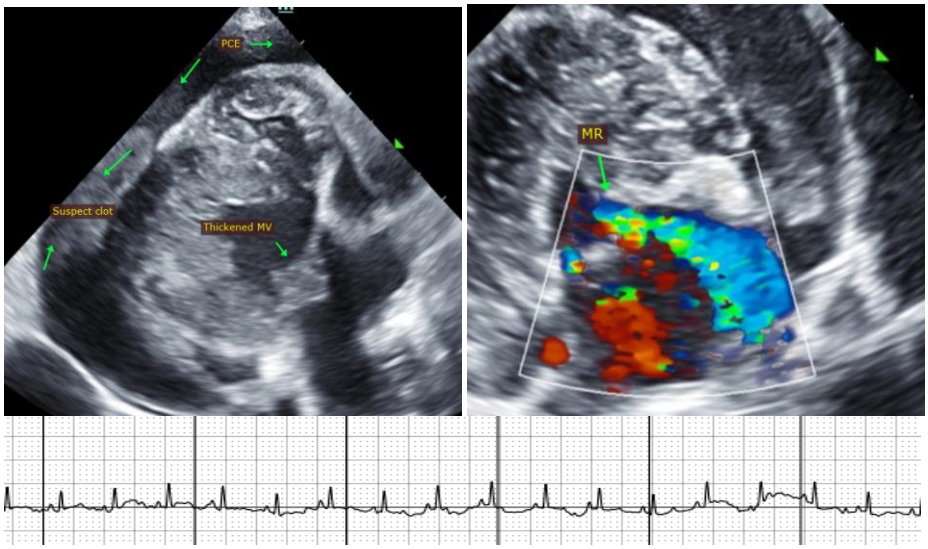
A renal panel, blood pressure and (if possible) reassessment of pericardial effusion is recommended in 1-2 weeks following discharge, then every 3-4 months going forward. Once stable and doing well at home, institute ACEI 0.5mg/kg PO q12h.

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

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)
info@sonopath.com