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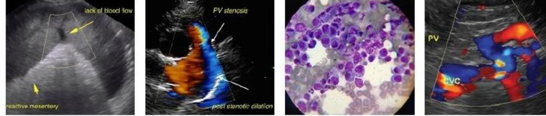


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT
Olivia Comstock

SPECIES
Canine

BREED
Great Dane

SEX
Female

AGE
8.2 years

WEIGHT
110lbs

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

IMAGING PERFORMED BY
Loetitia St-Jacques, LVT/RVT

HOSPITAL NAME
Mountain View Animal Hospital

REFERRING VET
Dr. Kalivoda

INVOICE
24072

DATE
5/5/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. DCM diagnosed 3 years ago. Cough started in April. No treated indicated. Represented the following day. Grade 4/6 heart murmur. Mild improvement with Lasix increase.
-CXR: Concerning for CHF and Lasix was increased.
-Current medications: Furosemide 80mg BID - taken to 160mg TID since UC visit. Pimobendan 10mg BID Just started Augmentin 625mg and Enroquin (2) 136mg tabs BID.
-BP: 110/130/132mmHg.
-Pertinent previous echo findings (2/2020 CS): Marked DCM, on full CHF medications at that time.

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

(4/19/22): Cardiomegaly. Concern for CHF.

ELECTROCARDIOGRAPHIC FINDINGS

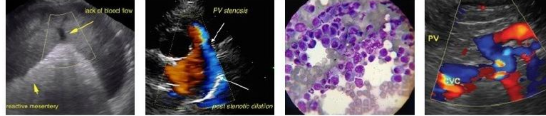
A six lead ECG is available at 25mm/s; 20mm/mV. The average heart rate is 150bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Three isolated VPCs are noted in a 1-minute tracing. Monomorphic with an LBBB morphology. No supraventricular premature beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia with rare isolated VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Marked left ventricular dilation with diminished systolic function and increased sphericity. Decreased LV wall thickness. Increased EPSS. Severe left atrial enlargement. The mitral valve appears normal in form and function, with no obvious prolapse into the left atrial lumen. Mild central mitral regurgitation. Tricuspid valve appears thickened with mild TR. Velocity consistent with mild pulmonary hypertension. Mild right atrial and ventricular dilation. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic or pulmonic insufficiency. 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	4.6	3.0	NM	2.2	11	24	3.6
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	145	1.2	0.8	49.9	6.9	9.8	8.7
*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 *Note: All measurements based upon multi-modal images and methods. An average value is reported.*				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)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)



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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	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

DCM persists with marked left heart enlargement. The function is diminished; however, this was noted the previous 2020 study. Mild pulmonary hypertension is identified, which is not surprising given the degree of abnormalities seen here. No additional issues are identified.

These findings would suggest lifelong medication should certainly be continued. The chest radiographs during the acute episodes appear most consistent with CHF; however, response to increasing the diuretic was reportedly minimal despite >9mg/kg/day. Because of this, recommend a dose adjustment as below, with continued respiratory antibiotics as were prescribed.

Given the severity of disease seen here, prognosis is poor, and this patient has already done far better than the average. Prognosis is <6 months.

Isolated VPCs are noted on the ECG, which are again not surprising. No treatment is warranted based upon what is seen here; however, a holter monitor is recommended. Cases of systolic failure are at high risk for malignant arrythmias, and sudden death and this should be expressed to the owner. Activity restriction is advised.

Elective anesthesia is not advised due to high risk for complications.

Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, worsening labored breathing, abdominal distention, 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:

Continue Pimobendan at an increased dose: administer 15mg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Do not utilize an ACE-I due to relative hypotension. Administer Lasix 80mg PO q8h. Consider hydrocodone, further respiratory work up/treatment as discussed.

Monitor a renal panel and blood pressure every 3-4 months lifelong.

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

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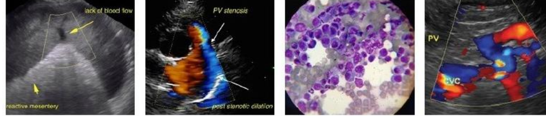

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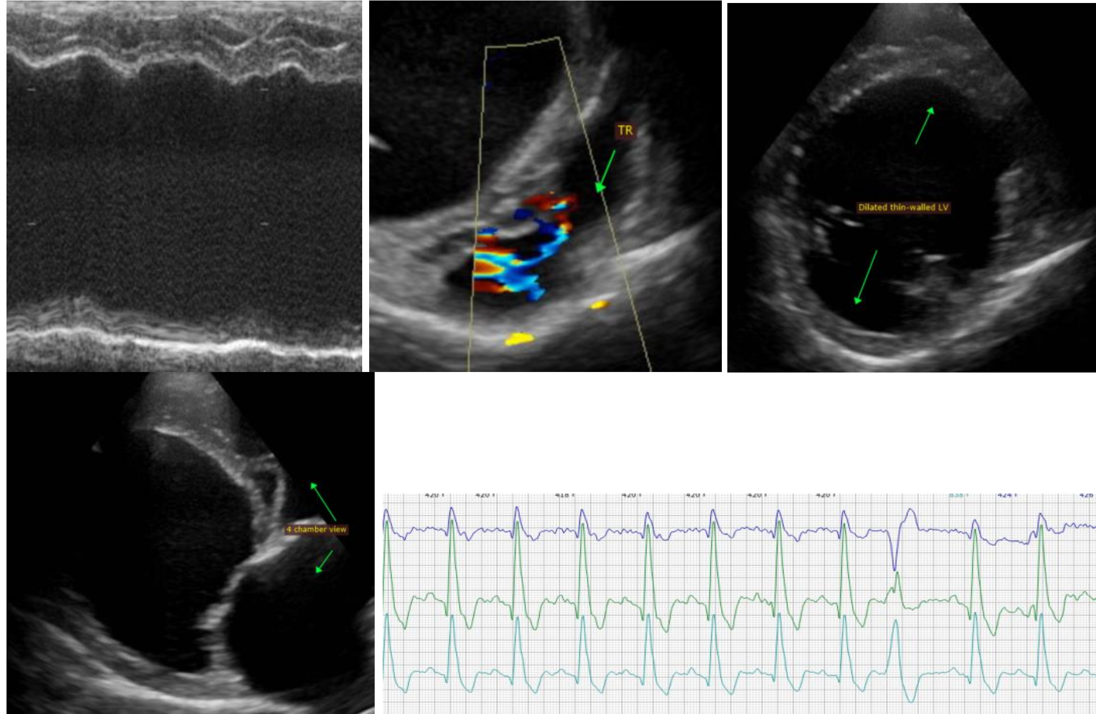
IMAGES



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