



PATIENT

Brendal Douglas

SPECIES

Canine

BREED

Pitbull

SEX

Male

AGE

3 years

WEIGHT

81.6lbs

PRESENTING CLINICAL SIGNS

History: Brendal presented to AEC tonight for discomfort/dyspnea, for possible therapeutic centesis/centeses. Brendal was presented to Boundary Bay Veterinary Specialty Hospital today to discuss with Dr. Herrera (DACVIM Oncology) treatment options and prognosis for a possible diagnosis of lymphoma. He has been diagnosed with bi/tri cavitory effusion via Animal Emergency Care and his primary veterinarian. Complete records are not available at this time to review data leading to diagnosis of lymphoma. He is currently on prednisone 20mg BID, loperamide 2mg q8-12h, Albon500 tapering dose, sucralfate 1mg q12h, and metronidazole 500mg q12h. He also received Baytril and furosemide injections on 8/20/21. He continues to breathe heavily at home and eliminate diarrhea. He is on an all-natural food from the country store for the past few weeks, prior to that he was on Pedigree.

-Abnormal PE/Chem/CBC/UA Results: Fluid analysis from rDVM on fluid reported to come from the pericardial space was a modified transudate. Cytology of the sample showed occasional large lymphoid cells which could just be reactive/inflammatory but also raised concern for possibility of lymphoma. Brendal had 800ml removed from what is reported to be the pericardial space on 8/13, another 600cc from what is reported to be the pericardial space on 8/16 with his primary veterinarian, and 600cc fluid removed via thoracentesis via AEC on 8/16. Radiographs have been taken by rDVM, but findings are not provided. The oncologist recommend consideration of echocardiogram to evaluate for other potential causes of the bi/tri cavitory effusion, but their cardiologist is not available, so an ER echo has been performed. Just prior to the echo, another 600 mL pink tinged serosanguineous appearing fluid (did not check cytology on sample this time) Bloodwork here at AEC on 8/16 showed leukocytosis WBC 25K, really nothing else remarkable. Coags were normal.

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Moderate central mitral regurgitation with moderate left atrial enlargement. Normal MR velocity. Normal LV diameter with adequate myocardial function. Paradoxical septal motion is noted in diastole. The tricuspid valve appears normal with trace tricuspid regurgitation. TR velocity is normal. Prominent right atrial and ventricular dimensions. Proximal region of the right atrium has an abnormal dilation, suspicious for a cor triatriatum dexter. This cannot be confirmed on color flow imaging which appears laminar and normal velocity through the septum. No significant MPA dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. Small volume pericardial effusion with no evidence of tamponade. Small to moderate volume pleural effusion. No obvious cardiac masses.

IMAGING PERFORMED BY

Dr. Callihan

HOSPITAL NAME

Animal Emergencyy
Care

REFERRING VET

Dr. Jaeger

INVOICE

20754

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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	5.1	2.2	NM	1.78	32	60	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	1.3	0.9	37.0	3.9	4.1	2.8
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Complicated case. The primary abnormality identified is a dilated proximal chamber associated with the right atrium. This is most consistent with a cor triatriatum; however, this cannot be confirmed on color flow imaging. No obvious pulmonary hypertension or other issues are identified associated with the right heart. The movement of the intraventricular septum is paradoxical which may suggest pressure overload of the RV. The most likely reason for this is potentially early constrictive pericarditis (CP), although this is also difficult to prove without further advanced imaging. An obstructive peripheral mass unable to be seen here remains a possibility as well, and should also be considered. As a final complicating factor, the left heart is also abnormal with a significant mitral leak and moderate left atrial dilation. This patient is quite young for typical chronic degenerative valve disease and some additional congenital pathology is suspected (mitral stenosis, dysplasia, etc.).

These findings may suggest a cardiac cause for the effusions, although further evaluation is advised as the whole story is not yet told. Constrictive pericarditis can develop secondary to chronic effusions, and this does not entirely rule out Lymphoma as a contributing factor. The previous diagnosis of Lymphoma does not sound definitive in the history; however, and this patient would benefit from a referral to a multispecialty center for several reasons. In the interim, consider treating for congestive signs to assess response, particularly if there is a delay in referral.



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Prognosis is guarded prior to further evaluation and complexity of issues. There is risk for development of arrhythmias, collapse, etc given the unusual presentation.

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PLAN

Highly recommend immediate referral to a multispecialty center for complete reevaluation including advanced echocardiography and potentially thoracic imaging. If there is a delay in referral, consider institute cardiac supportive medications and assess response as follows:

BREED

Pitbull

Institute Pimobendan 0.3mg/kg PO q12h, Spironolactone 1-2mg/kg POq12h, Lasix 1-2mg/kg PO q12h.

SEX

Male

Continue centesis as needed for patient comfort. Reassess effusions in 5-7 days to assess response.

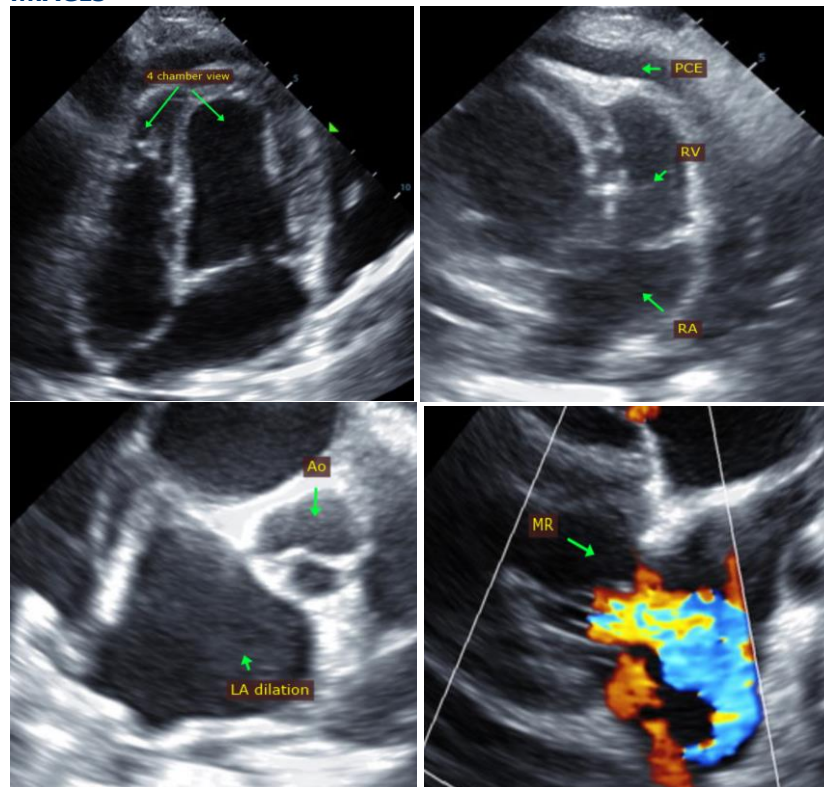
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IMAGES

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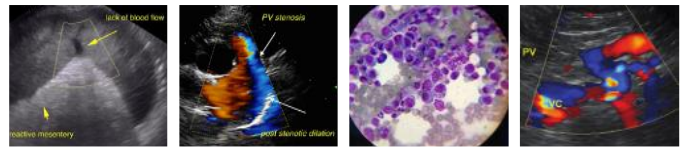
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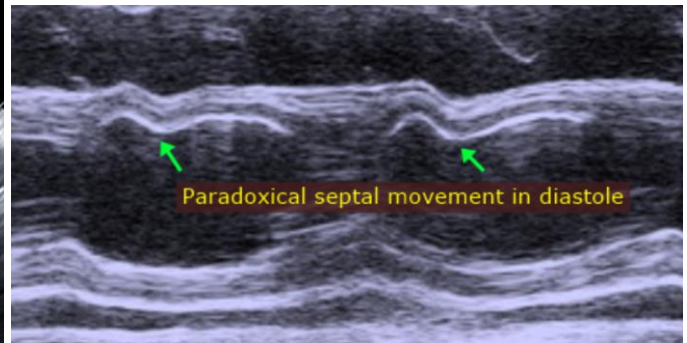
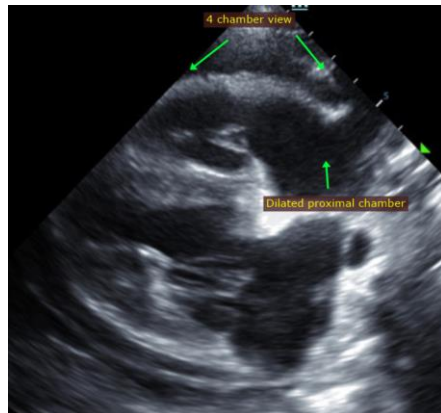
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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