


PATIENT

Tucker Charles

PRESENTING CLINICAL SIGNS

History: Has been having episodes of collapsing episodes and in clinic was turning purple. Took 2 hours of flow by oxygen and Furosemide to stabilize him today. CXR taken a few months ago showed some lung effusion at that time. Has grade 4/6 murmur with no cough. Mild inspiratory noise noted bilaterally at recheck in Feb this year. Has been on Pimobendan 10mg/ml 0.33ml BID, Hydrocodone and Furosemide 20mg BID.

SPECIES

Canine

BREED

Schnauzer Mix

SEX

Male Neutered

AGE

10 years

WEIGHT

10.8kgs

INTERPRETED BY

 Maggie Machen Lamy,
 DVM DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

 Nelson Animal
 Hospital

REFERRING VET

Dr. Quinn

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. There is severe left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is adequate. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. No right atrial or right ventricular dilation. The tricuspid valve is mildly thickened with trace tricuspid regurgitation. Normal TR velocity. No pulmonic or aortic insufficiency. Small volume pericardial effusion. Fibrinous material is seen within the pericardial space, most consistent with a clot. No obvious pleural effusion. No cardiac masses are seen. Bradycardia throughout.

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	4.0	2.2	NM	2.2	51	92	0.38
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	104	1.4	1.5	11	3.7	4.3	2.1
*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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Severe chronic degenerative valve disease is present causing severe mitral and trace tricuspid regurgitation. Significant left heart enlargement indicates the risk for spontaneous decompensation is elevated. No concurrent issues such as pulmonary

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PATIENT	hypertension are identified. Relative bradycardia is noted, and an ECG is strongly recommended.
Tucker Charles	
SPECIES	As a complicating factor there is small volume pericardial effusion present. Pericardial effusion in a patient with this degree of heart disease is most commonly due to a small left atrial tear (leading to hemorrhage into the pericardial space) or right ventricular failure. A pericardial/tumor bleed or other hemorrhagic effusion is considered much less likely.
Canine	
BREED	Given the degree of LA enlargement and suspicion for a clot within the pericardial space, an LA tear is suspected and would explain reported syncope. What is unusual is there is some concern for possible early cardiac tamponade (rare with LA tears), which puts the patient in a highly unstable position. I rarely recommend tapping suspect LA tear effusions; however, this case may need the procedure in the near future despite the risk. Other possibilities for these findings should be considered, such as a bleeding disorder.
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SEX	
Male Neutered	
AGE	In total, recommend hospitalization for IV Lasix and oxygen support and stabilization as needed. Ideally, I would treat this patient with diuretic therapy and supportive care and monitor the amount of effusion prior to deciding to tap. Certainly, if it increases, or the patient further decompensates this will become emergent. Given the complexity of this case and unstable situation, consider referral to a Multispecialty Center as the gold standard approach.
10 years	
WEIGHT	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.
10.8kgs	
INTERPRETED BY	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.
Maggie Machen Lamy, DVM DACVIM (Cardiology)	
IMAGING PERFORMED BY	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.
Crystal Hill	
HOSPITAL NAME	PLAN
Nelson Animal Hospital	Consider referral as discussed. As an alternative, consider hospitalization overnight as discussed, with close monitoring of degree of pericardial effusion/need for centesis, continuous ECG evaluation, diuretic therapy and O2 support. Institute Pimobendan ASAP 0.3mg/kg PO q12h.
REFERRING VET	Once stabilized, discharge on the following: Institute furosemide 1-2mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h; Pimobendan 0.3mg/kg PO q12h.
Dr. Quinn	
INVOICE	A renal panel, ECG, 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.
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A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

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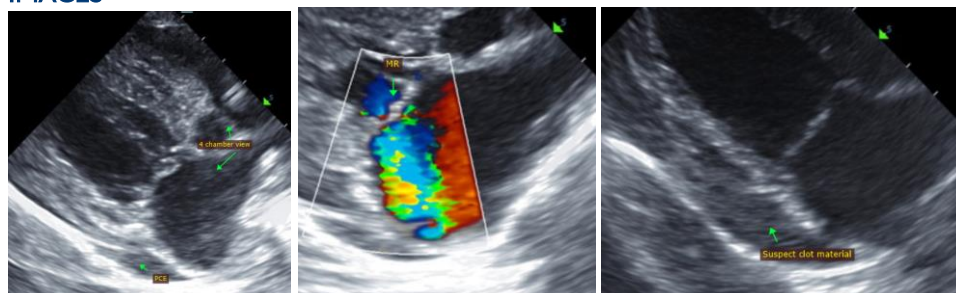
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IMAGES



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. 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
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