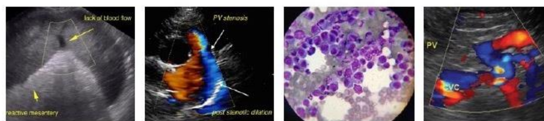


PATIENT

Trixie Rendell

SPECIES

Canine

BREED

Maltese Mix

SEX

FS

AGE

11yr

WEIGHT

5kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Hamilton Region Emergency Clinic

REFERRING VET

Grewal

INVOICE

13785ag

DATE

05/11/2023

PRESENTING CLINICAL SIGNS

Patient presented to Emerg on 5/11/23 for respiratory distress. Was at reg DVM day before for same issue. Patient underwent GA for dentistry and mass removal at reg DVM 5/8/23. BW at reg DVM was NSF. History of heart murmur graded differently over the last while in records from different DVMs but mostly grade 3/6. Owner reports poss history of seizures? about 3 in the last 6 to 8 months. Owner describes as patient fell down after a walk and then would lean head back and start yelping. Patient seemed unconscious during episode. PE - QAR, ambulatory, no nasal discharge, hypersalivation, diff to auscultate heart due to respiratory interference but likely grade 3-4/6 with normal rhythm and no pulse defecits. Increased abdominal effort for breathing. Increased lung sounds. Tense abdomen, some bruising around previous surgical site. SP02 95-96% without oxygen. Has been started on Ampicillin, Enrofloxacin, Furosemide(two doses) and Butorphanol.

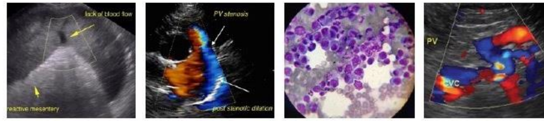
Abnormal PE/Chem/CBC/UA Results: Emerg BW - mod non regenerative anemia, RBC 4.09, HCT 0.274, Hg 94(acute blood loss? other?) Mild lymphopenia, mild monocytosis, mild elevation of MPV, M1 elevation BUN, Mild hypernatremia and mild hyperchloremia low T4. BP 144/85(104) HR 132 Rads - cardiac silhouette measures normal limits but left atrium appears enlarged. VHS 10 Lungs patchy unstructured interstitial/alveolar pattern, worse in right lungs. Pulmonary changes are non specific, consider pneumonia and partial atelectasis but cardiogenic pulmonary edema cannot be ruled out.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	<1.3	28-40	40-100	<0.6
PATIENT		<2.0		1.46	39	72	0.22
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				
PATIENT	100	1.6	0.9		3.2	2.5	

Cardiac Presentation

The echocardiogram for this patient presented minor increased left atrial size expressed both in the LA/AO and LA max measurements. Subtle deviation of the interatrial septum towards the right atrium suggestive of mild increased left atrial pressure was noted. The cranial and caudal mitral valve leaflets presented mild to moderate thickening (anterior > posterior) consistent with endocardiosis. Mild septal leaflet prolapse was present. Doppler indicated mild to moderate centralized to eccentric insufficiency. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Contractility of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The left ventricular outflow tract demonstrated normal laminar flow and



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subjective structural integrity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Tricuspid valvular assessment demonstrated mild thickening with minor TR on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible pericardial or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible.

The cranial mediastinum and pericardial regions were free of masses in the visible window. No arrythmias. Non-specific pericardial comet tail lung pattern was present which may suggest echogenic sound wave interference with microconsolidations within the lung field. No overtly visualized space occupying pulmonary masses or peripheral nodules.

ULTRASONOGRAPHIC FINDINGS

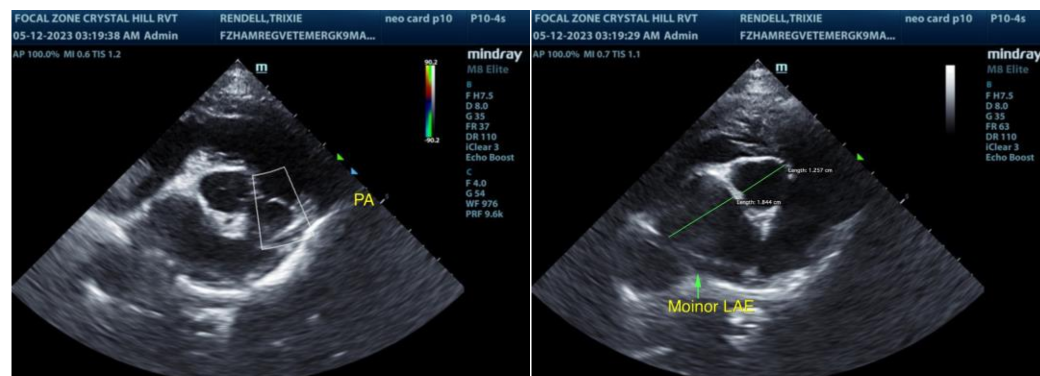
- Chronic mitral valve disease with mild septal leaflet prolapse (ACVIM minor B2)
- Minor LA enlargement.
- Normal RA/RV.
- Minor TR-no overt clinical pulmonary hypertension.

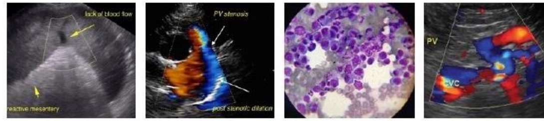
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary MR and mild TR. The minor left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is relatively low at this time. No other clinical issues such as pulmonary hypertension or LV systolic dysfunction are present.

Given the lack of left/right heart chamber enlargement, cor pulmonale of clinical pulmonary hypertension, the respiratory distress in this patient appears to be non-cardiogenic in origin with consideration for primary lung disease. Considerations may include non-cardiogenic edema, pneumonitis, pneumonia, thromboembolic disease, non-specific inflammatory/infectious disease, neoplasia or other.

No indication for cardiac medications. Further assessment would require pulmonary sampling i.e., BAL or TTW. As needed respiratory support and therapy is recommended. Recheck echocardiogram recommended in 6-12 months, sooner if clinically indicated.





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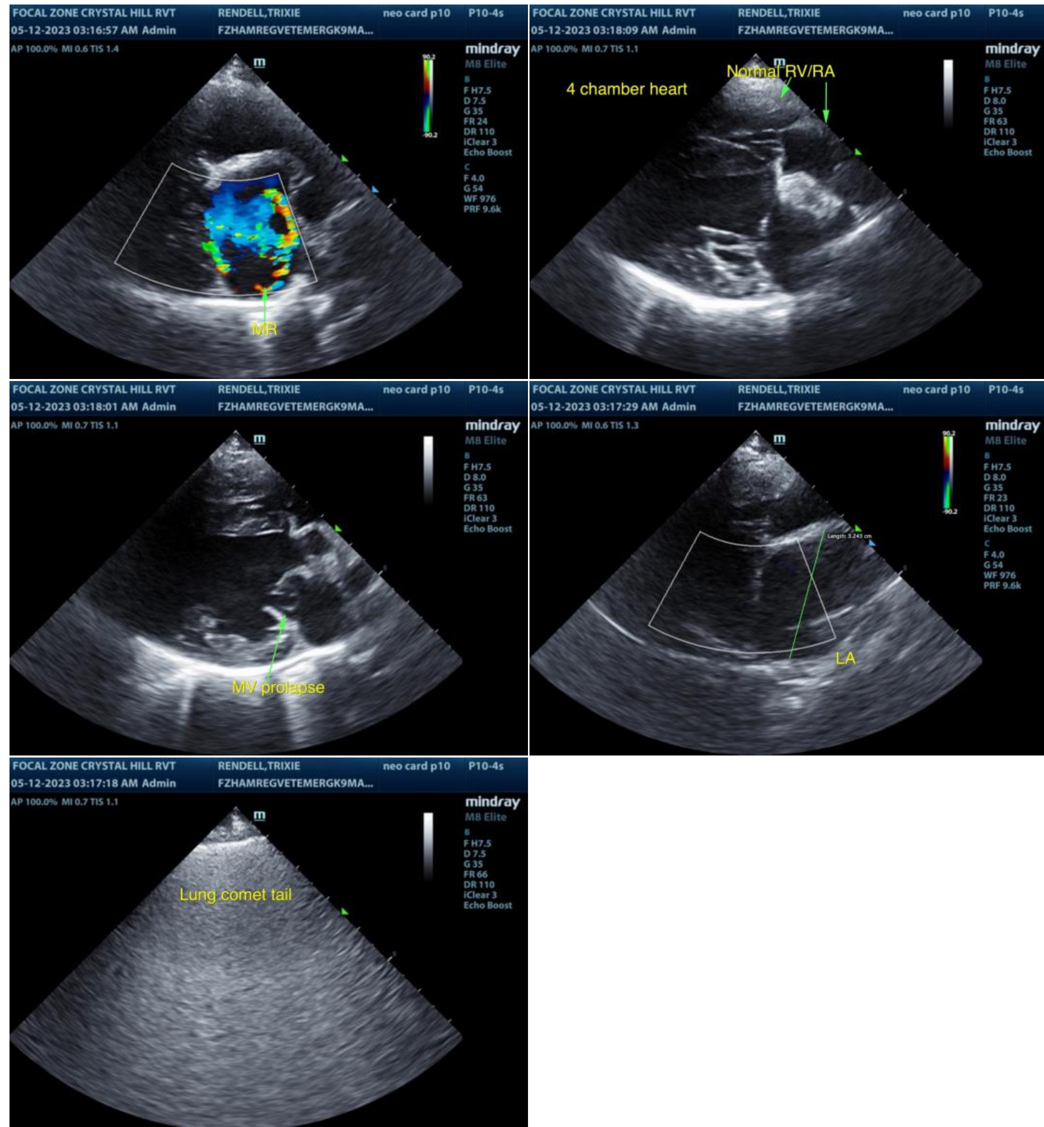

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com