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Clinical Sonography & Telecytology
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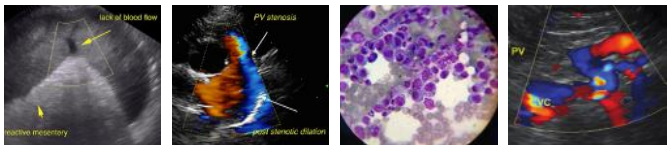

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1-800-838-4268 info@sonopath.com

PATIENT
Lilly Botha

SPECIES
Canine

BREED
Maltese

SEX
FS

AGE
16yr

WEIGHT
6lb

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

IMAGING PERFORMED BY
Shari Reffi CVT

HOSPITAL NAME
Animal Hospital of Roxbury

REFERRING VET
Dr. Hickenbottom

INVOICE
11331ag

DATE
08/09/2022

PRESENTING CLINICAL SIGNS

History: Evaluate severity of heart dz. Grade V-VI/VI murmur. Distended abdomen. No current meds.

Abnormal PE/Chem/CBC/UA Results: Bun 45, bun/creat ratio 38, Glu 60, Ca 7.8, Na 155, PSL 200, SDMA 20.3

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	5.5	3.6		3.0	37.3	69.6	0.2
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	166	1.0	0.75		3.0	2.8	

Cardiac Presentation

The echocardiogram in this patient demonstrated severely enlarged left atrial size based on 2 different LA measurement methods. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis with septal leaflet prolapse. Doppler indicated measurable moderate eccentric insufficiency. The left ventricle presented thicknesses with linear contour with increased left ventricle volume. 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 subjective structural integrity. Potential for trace to minor aortic insufficiency possible yet not definitive. The right atrium and auricle revealed significant increased size with subtle deviation of the interatrial septum towards the left atrium which may suggest increased right atrial pressure was present. No evidence of masses was noted. Tricuspid valvular assessment demonstrated mild thickening with mild prolapse of the septal tricuspid valve leaflet. Moderate TR was present on Doppler. The right ventricle Exhibited moderate increased size with normal myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and increased diameter compared to the aorta (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.

Brief sonographic assessment of the cranial abdomen revealed evidence of hepatic congestion and moderate to potential significant volume ascites.

ULTRASONOGRAPHIC FINDINGS

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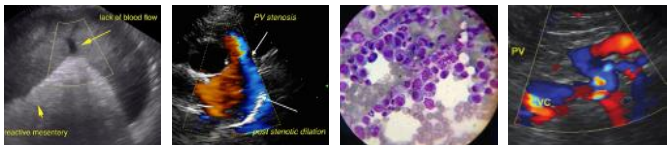

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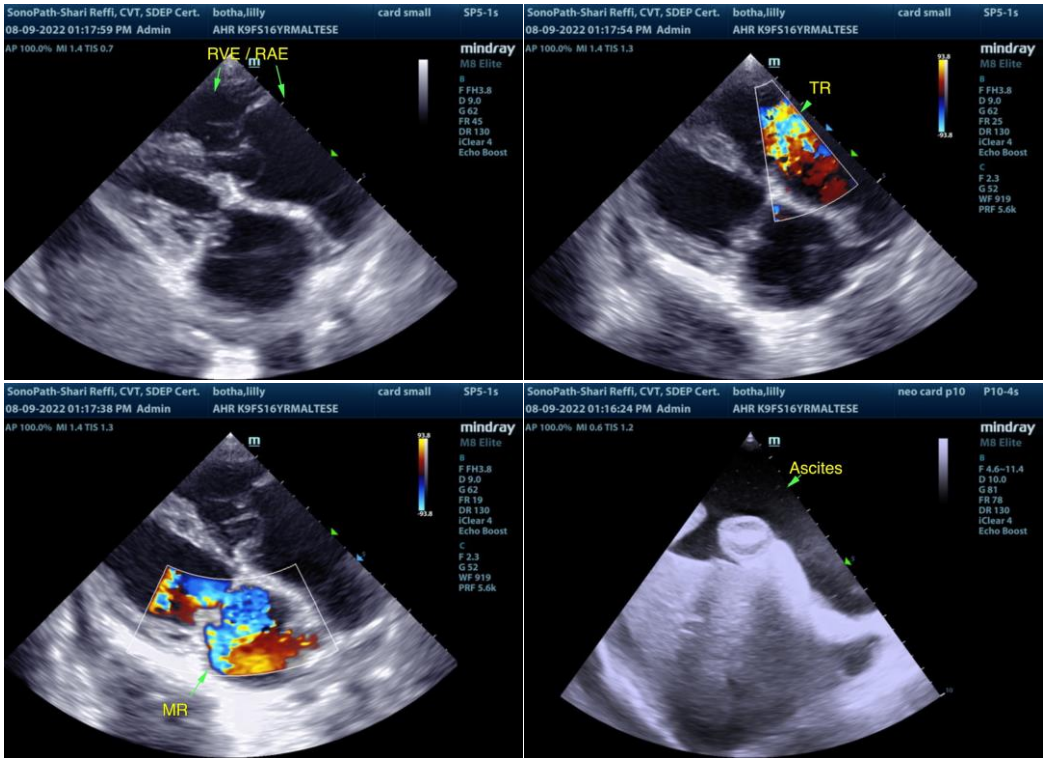
- Chronic mitral valve disease with mild septal leaflet prolapse, severe LA and moderate LV enlargement-consistent with ACVIM stage C MVD
- Significant RA/RV enlargement with tricuspid valve prolapse
- Moderate pulmonary hypertension
- Secondary hepatic congestion and moderate to significant volume ascites

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient has severe cardiomyopathy exhibited by 4 chamber dilation, severe MR and TR with moderate pulmonary hypertension (estimated pulmonary pressure gradient approximately 53 mmHg). Potential for borderline elevated heart rate was noted, baseline ECG highly recommended due to risk for atrial fibrillation or other arrhythmias. Assessment of taurine levels, troponin level and thyroid status could be considered if clinically indicated. Given the cardiac presentation the cause of the ascites is CHF. Long term prognosis is likely poor as this patient would be at continued high risk for CHF, clinical signs associated with pulmonary hypertension, development of malignant arrhythmias and sudden death. Exercise restriction is advised.

Pimobendan 0.3 mg/kg PO BID, combination Lasix/spironolactone both at 1-2 mg/kg PO BID with as needed O2 support with potential referral for continued monitoring and therapy until patient is stabilized is warranted. Monitoring of renal parameters, ECG and systemic BP is recommended. Sildenafil may be indicated in this patient; serial sonographic monitoring is required for further assessment and estimation of pulmonary pressures. Recheck echocardiogram suggested in 2-3 weeks pending clinical response to therapy.



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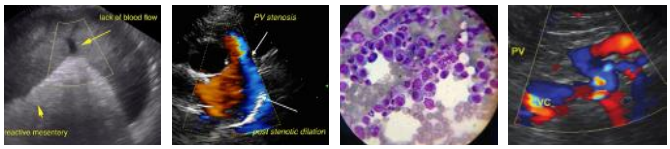

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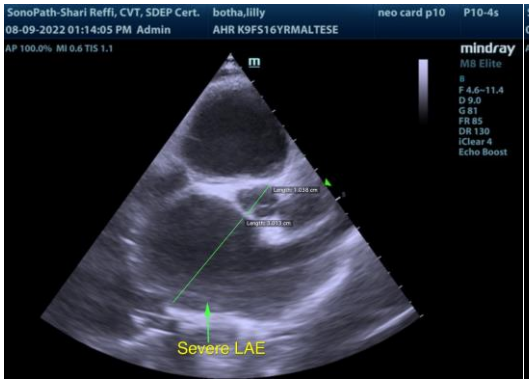

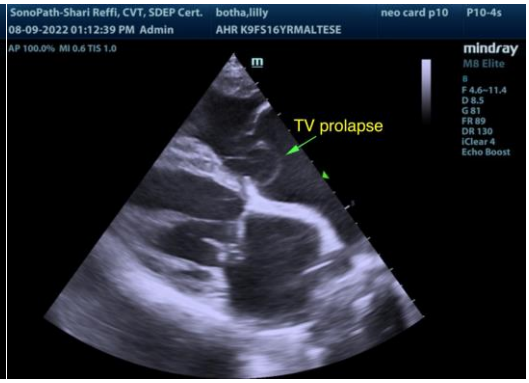

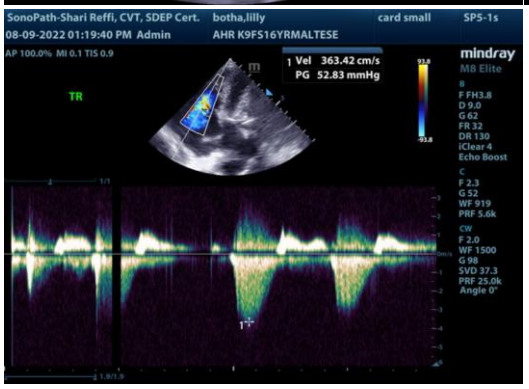

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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