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Clinical Sonography & Telecytology
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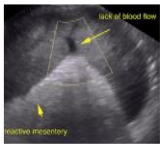
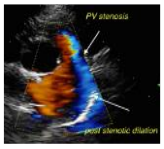
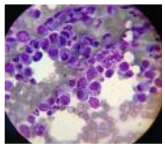
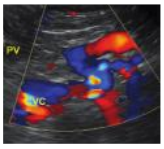

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1-800-838-4268 info@sonopath.com

PATIENT
Lilly Kaye

SPECIES
Canine

BREED
Shih Tzu

SEX
FS

AGE
14 years

WEIGHT
12.64

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

IMAGING PERFORMED BY
Val Shumskaya

HOSPITAL NAME
Westwood Regional Veterinary Hospital

REFERRING VET
Dr. Hartwick

INVOICE
17433

DATE
7/28/23

PRESENTING CLINICAL SIGNS

Collapsed at groom, during bath. grade IV-V/VI HT murmur - now finding HR 120 NSR RR- pant no hx seizure, r/o syncopal episode vs seizure BP 246/90, 227/98,169/99

Abnormal PE/Chem/CBC/UA Results: cbc wnl, chem BUN 29, CR 0.9, ALKP 361

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			1.5	1.5	38.3	71	0.15
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	138	0.9	0.7		2.6	2.6	

Cardiac Presentation

The echocardiogram in this patient demonstrated minor increased **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented mild to moderate thickening consistent with endocardiosis. There was no overt mitral valve prolapse. Doppler indicated measurable moderate eccentric insufficiency with increased measured MR velocity. 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 subjective structural integrity. Normal measured LVOT velocity was noted. 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 valvular thickening with mild 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). Normal measured RVOT velocity was noted. 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 overt arrhythmia was noted.

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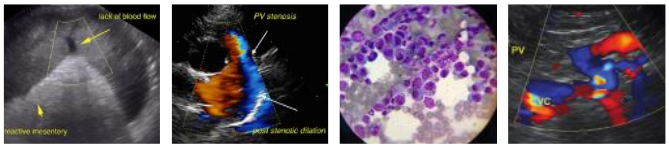

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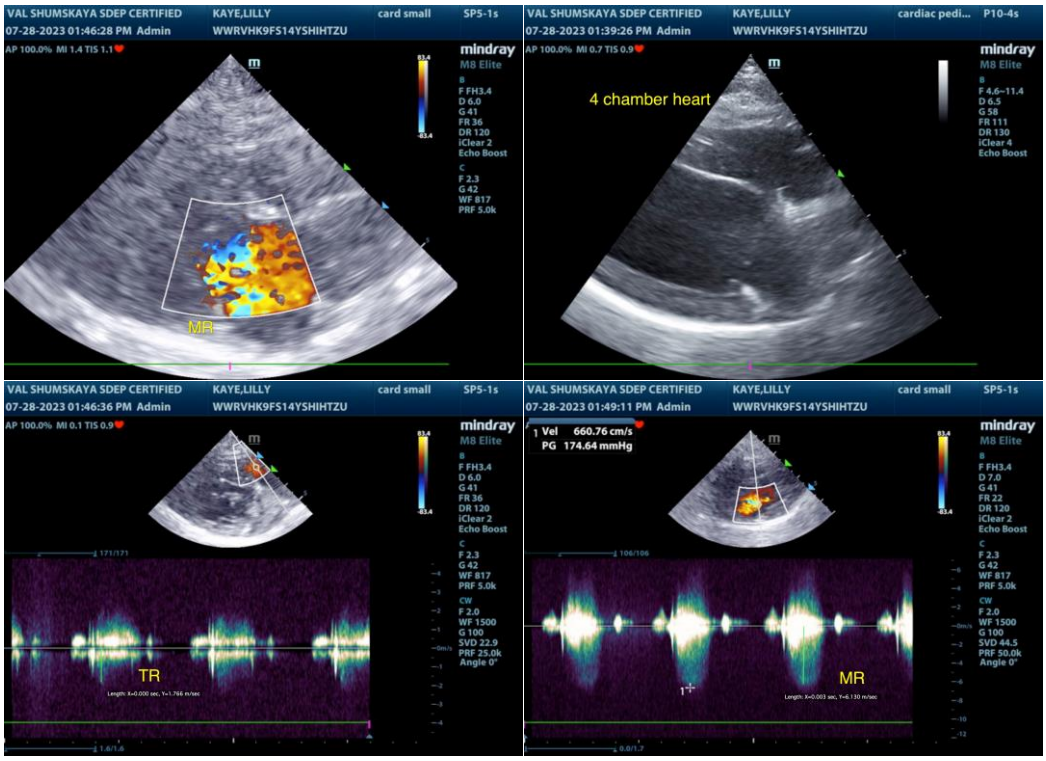
ULTRASONOGRAPHIC FINDINGS

- Compensated chronic mitral valve disease (ACVIM B1- early B2) with increased measured MR velocity
- Mild TR - estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with secondary primary MR and mild TR. The lack of significant LA enlargement indicates that the current and future risk of complications secondary to MR at this stage is low. There are no additional clinical issues such as LV systolic dysfunction or stenotic disease.

In an overall nonclinical patient without evidence of significant chamber enlargement, cardiac medications are not obviously indicated. Potential for previous paroxysmal arrhythmia cannot be definitively excluded. ECG assessment or potential Holter monitoring, if continued potential syncopal episodes, may be considered. Monitoring of systemic BP going forward, given reported blood pressure, as well as increased MR velocity, is suggested with potential treatment of hypertension if clinically indicated. Abdominal ultrasound to assess potential contributing factors to the patient's clinical signs or hypertension may be considered. Prognosis is considered variable and sonographic monitoring is advised. Recheck echocardiogram is suggested in 6 months, sooner if clinically indicated.



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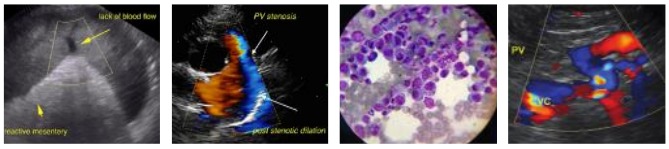

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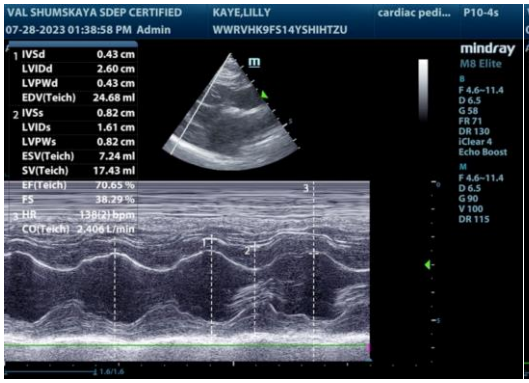

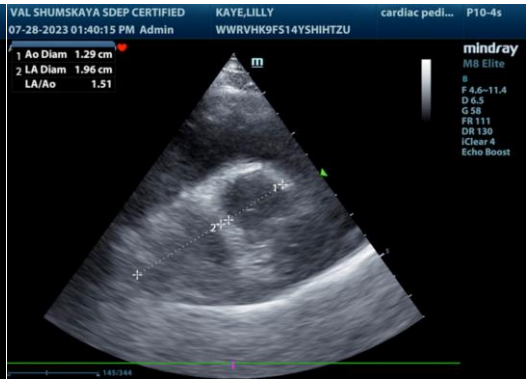

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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