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Clinical Sonography & Telecytology
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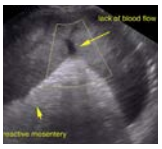
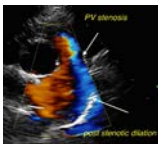
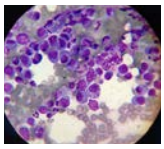
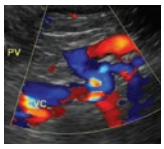

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1-800-838-4268 info@sonopath.com

PATIENT
Mia Garrett

SPECIES
Canine

BREED
Maltese

SEX
Spayed Female

AGE
1 Year

WEIGHT
9 Pounds

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

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Pompton Lakes AH

REFERRING VET
Dr. Giammanco

INVOICE
25729

DATE
9/22/21

PRESENTING CLINICAL SIGNS

History of heart murmur - progressed from a grade 2 to a grade 4/6 over the past 8 months. No current meds.

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	<1.6	28-40	40-100	<0.6
PATIENT			NM	1.2	47.4	82.3	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	105	1.4	1.5		1.9	1.9	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. Trace mitral valve insufficiency noted on color doppler assessment. 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. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Turbulent systolic blood flow noted within the right ventricle lumen in the area of the membranous intraventricular septum. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Color doppler assessment of the pulmonic valve revealed minor pulmonic valve insufficiency. No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Suspect membranous to perimembranous VSD
- Minor pulmonic valve and mitral valve insufficiency
- Overall normal cardiac structure and function

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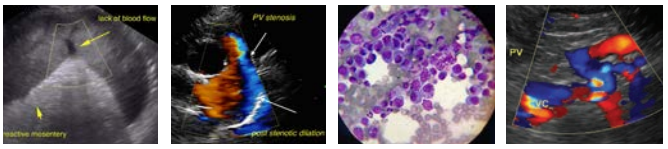

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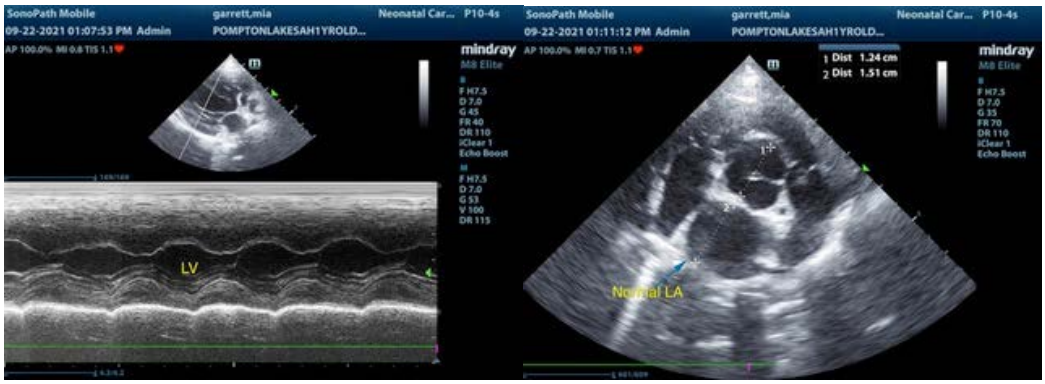
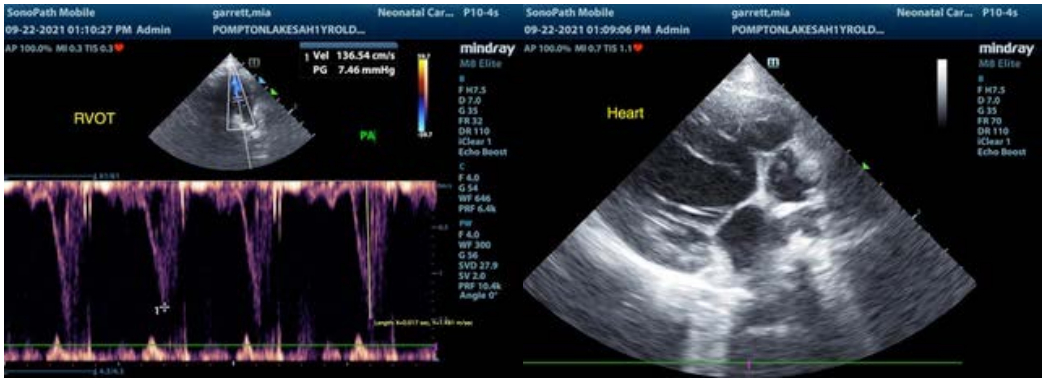
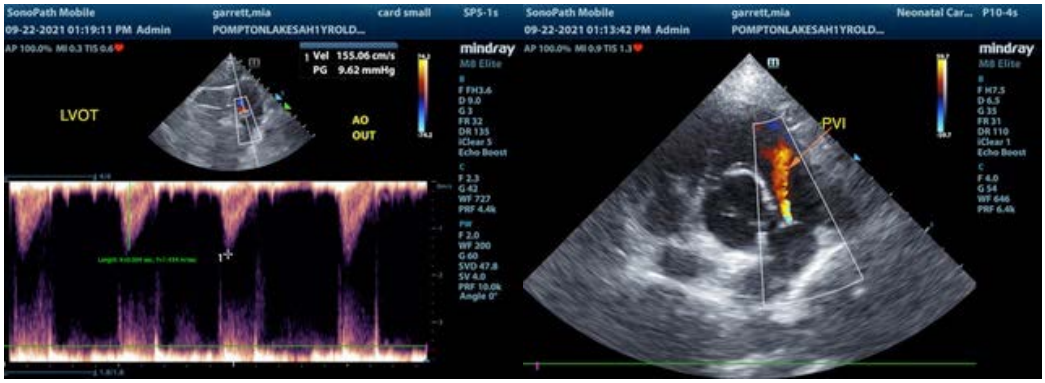
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the lack of structural or functional cardiomyopathy including no evidence of left heart volume overload or systolic dysfunction, and in light of the presence of turbulent blood flow during systole within the right ventricle lumen, a membranous or perimembranous VSD is suspected. The hemodynamic effects of the suspected VSD are considered insignificant at this time without evidence of left or right heart chamber enlargement. This lack of left or right heart chamber enlargement indicates that the risk of future complication is low at this time, yet monitoring and serial echocardiography is recommended for further assessment. No indication for cardiac medications at this time. Recheck echocardiogram suggested in 3-6 months, sooner if murmur intensity continues to increase or clinical signs suggestive of heart disease develop. Alternatively, referral to local cardiologist for further assessment would be appropriate given the young age of the patient.







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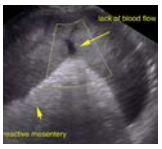
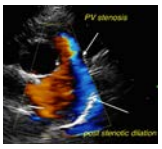
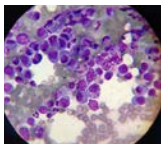
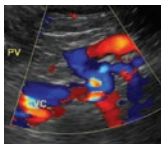

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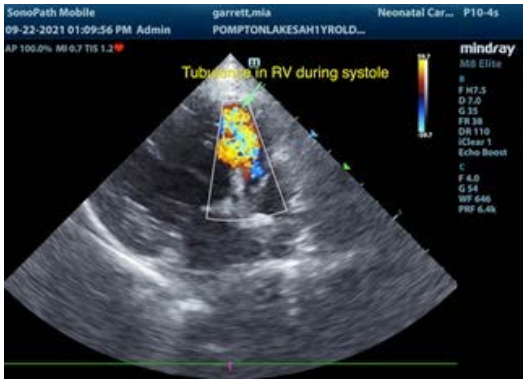

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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