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Clinical Sonography & Telecytology
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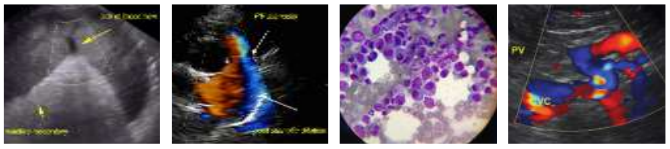

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Blue Veras

SPECIES

Canine

BREED

Minature Australian Shepherd

SEX

MN

AGE

1 year

WEIGHT

21.8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Englewood Vet Center

REFERRING VET

Dr. Ezik

INVOICE

DATE

1/7/21

PRESENTING CLINICAL SIGNS

Newly diagnosed Grade 1 left-sided heart murmur.

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			--	1.28	50	85	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	BELOW	BELOW	BELOW	BELOW
PATIENT	113	1.5	1.0		2.3	2.4	

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. 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. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Mild pulmonic valve Insufficiency was present on color doppler assessment. 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

Primary Findings

- Overall normal cardiac structure and function

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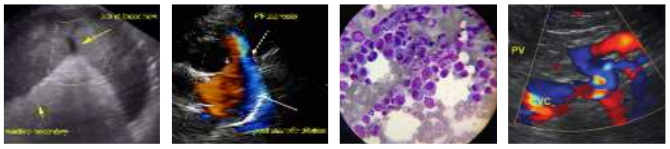

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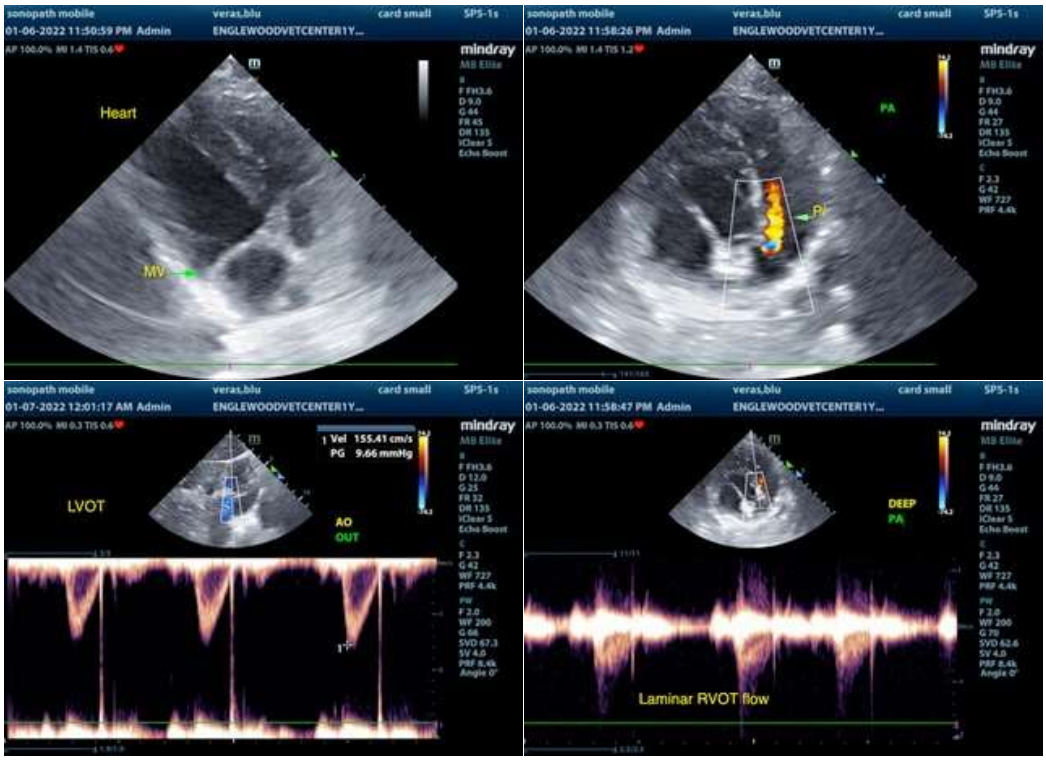
- Pulmonic valve insufficiency with normal laminar RVOT velocity
- Normal left atrium
- Normal LVOT flow and velocity

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No evidence of structural or functional cardiomyopathy was noted. A definitive cause of the murmur was not overtly evident. The murmur may potentially be associated with pulmonic valve insufficiency, yet the RVOT velocity was not consistent with pulmonic stenosis. No other clinical abnormalities such as systolic dysfunction, stenotic disease, other valvular insufficiencies or overt evidence of a shunt, given the lack of left or right heart volume overload, were noted. Potential for physiologic flow murmur or additional small flow abnormality not visualized here cannot be excluded.

Regardless, the lack of left or right heart chamber enlargement or left or right ventricular hypertrophy indicates that the risk of complication associated with the low-grade murmur is low. Conservative monitoring at this time would be appropriate. No indication for cardiac medications or contraindication to anesthesia if required is evident. Recheck echocardiogram is suggested In 6-12 months, sooner if the murmur persists / progresses.



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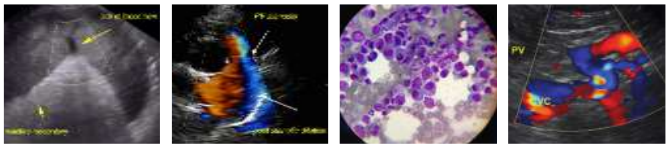

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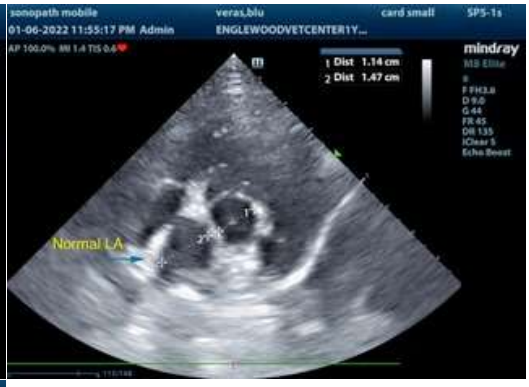

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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