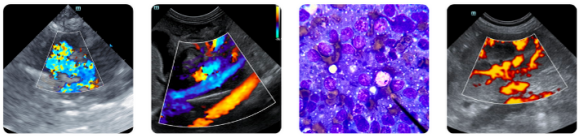

PATIENT

Toby Rodriguez

SPECIES

Canine

BREED

Cocker Spaniel

SEX

Male

AGE

2y 9m

WEIGHT

32.8 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Kerrie

HOSPITAL NAME

Animal Paradise Hospital

REFERRING VET

Dr. Jacob

INVOICE

13417

DATE

4/22/26

PRESENTING CLINICAL SIGNS

History: Assess cardiac status prior to anesthetic surgery HM 4/6

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	--	--	--	1.3	40	74	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**LAD** LA MAX 4 Chamber	**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	145	2.0	1.9	--	3.6	3.7	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 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. No overt MR noted on doppler. 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. Borderline increased measured LV outflow velocity. 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. No overt TR noted on doppler. 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). Normal measured RV outflow velocity. 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. Nonspecific turbulence at the level of the aortic valve and possible membranous intraventricular septum. No evidence of arrythmia present.

ULTRASONOGRAPHIC FINDINGS

- Overall normal cardiac structure/function
- Borderline increased measured LV outflow velocity

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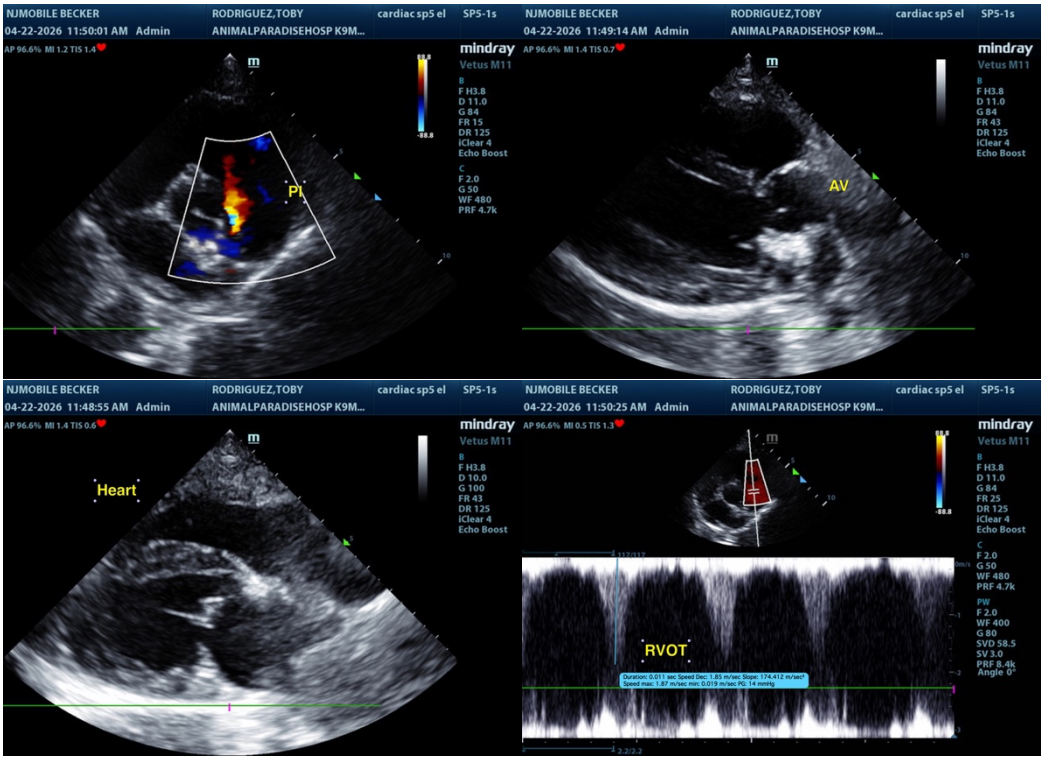
- Subjective turbulent blood flow potentially at the level of membranous intraventricular septum
- Pulmonic valve insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No evidence of left or right heart chamber enlargement or volume overload. Definitive cause of the murmur was not obvious. The borderline increased measured LV outflow velocity is nonspecific and without overt evidence of LV outflow structural abnormality or aortic valve disease may be classified as a flow murmur. Likewise, the turbulent blood flow in the area of the LV outflow tract and potential membranous intraventricular septum is nonspecific with a small membranous VSD possible. No evidence of pulmonary hypertension. Regardless of classification, the overall hemodynamic effects of the murmur at this stage appear low given lack of cardiac chamber enlargement.

Ideally, cardiology referral for further clarification and potential for advanced echo or diagnostics such as a bubble study is recommended. Given lack of structural/functional cardiomyopathy, cardiac anesthetic risk is likely low at this stage. If referral is not possible, serial monitoring of the heart murmur for evidence of progression with recheck echo is in 6 months would be reasonable. If elected, the following anesthetic protocol is recommended. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.



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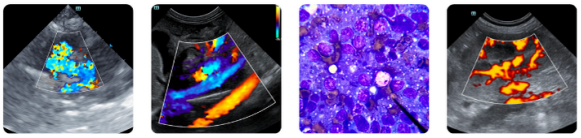

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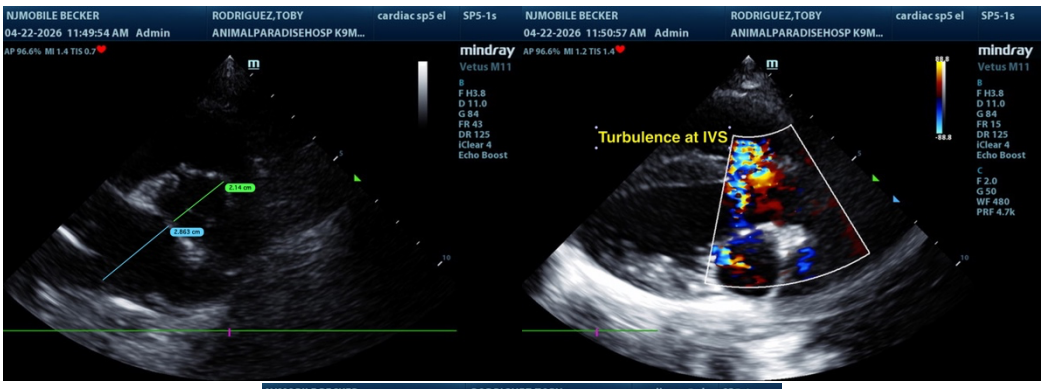

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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