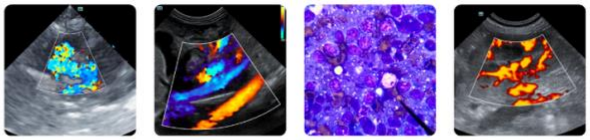



**PATIENT**

Raven Lovegreen

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Intact Female

**AGE**

6 Months

**WEIGHT**

6.96 Pounds

**INTERPRETED BY**

Sara Brethel DVM, DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Dr. Andrea Nason

**HOSPITAL NAME**

Caravan VS

**REFERRING VET**

Dr. Andrea Nason

**INVOICE**

35026

**DATE**

12/22/25

## PRESENTING CLINICAL SIGNS

History: Raven has a persistent grade 1-2 parasternal heart murmur. She needs to be scheduled for a spay. Cardiac work up to assess for underlying heart disease and safety of anesthesia.

Abnormal PE/Chem/CBC/UA Results: CBC, Chem, UA, and proBNP normal for age blood pressure 110 systolic.

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

| **FELINE CARDIAC PARAMETERS** | **BODY WEIGHT** (kg) | **HR** (BPM) | **IVSd** (cm) | **LVIDd** (cm) | **LVWd** (cm) | **FS** (%) | **EF** (%) |
|---|---|---|---|---|---|---|---|
| **NORMAL PARAMETER** | ------ | 150-240 | 0.3-0.6 | 1.0-2.1 | 0.25-0.6 | 35-67 | 80-100 |
| **PATIENT** | 3.16 | NM | 0.42 | 1.1 | 0.49 | -- | -- |
| **FELINE CARDIAC PARAMETERS** | **LA/AO** (M-mode) | **LA/AO HEART BASE** (Sisson) | **LAD** LA MAX 4 Chamber | | **LVOT VEL.** (m/s) | **RVOT VEL.** (m/s) | **IVRT** (m/) |
| **NORMAL PARAMETER** | <1.5 | 1.6 | 0.7-1.7 | | <1.6 | <1.3 | 40-60 |
| **PATIENT** | -- | 1.27 | -- | | NM | ~0.6 | NM |
| Adapted from June Boon, Veterinary Echocardiography,1998<br>Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705 | | | | | | | |

### *Chest Radiographic Interpretation*

No signs of cardiogenic pulmonary edema. The cardiac silhouette and pulmonary vasculature appear normal.

### *ECG Interpretation*

Sinus rhythm

### *Cardiac Presentation*

The mitral valve leaflets are normal and there is no mitral regurgitation. The left atrial size is normal. There is no evidence of systolic anterior motion of the mitral valve and no evidence of a left ventricular outflow tract obstruction. Left ventricular systolic and diastolic function is within normal limits. There is no evidence of left ventricular concentric hypertrophy. There is normal right atrial size without evidence of tricuspid regurgitation. There is no prolapse of the tricuspid valve leaflets and no evidence of pulmonary hypertension on the images provided. The right ventricle appears normal in structure and function subjectively. The aortic and pulmonic valves have normal morphology and the

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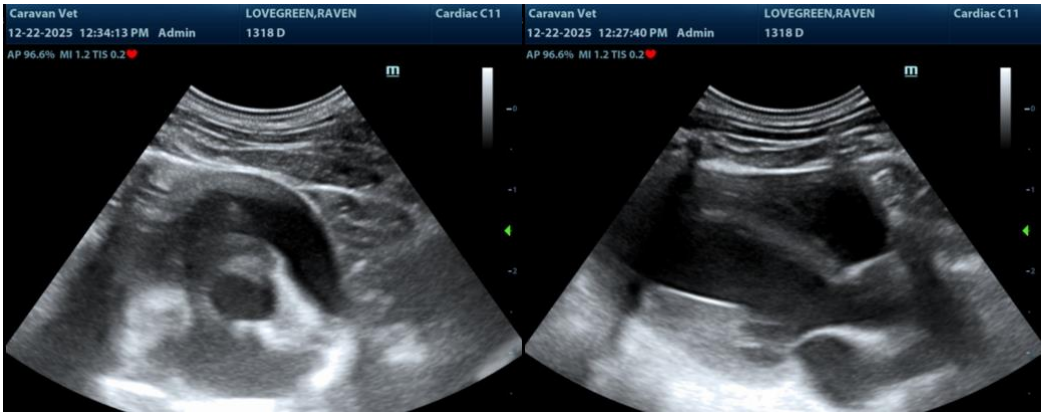
corresponding outflow velocities are within normal limits. There is no evidence of pulmonic or aortic insufficiency. The aorta appears normal. The pulmonary artery and associated branches appear normal. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses. Ventricular septal defect is not identified.

## ULTRASONOGRAPHIC FINDINGS

- Structurally normal heart with the images provided

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient appears to have a structurally normal heart with the images provided. It does not appear that the images assessed for a PDA or other congenital defects, such as interatrial septal defect or a muscular ventricular septal defect, however, given the normal cardiac chamber sizes, additional congenital abnormalities, that are hemodynamically significant, are considered less likely. The murmur is likely physiologic versus innocent. To be cautious, can follow more of a cardiac safe protocol. Standard perioperative fluid rates should be well-tolerated. Medications like dexmedetomidine and other alpha 2 agonists are best avoided. Ketamine is also best avoided. Anticholinergics can be used in the case of a clinically significant bradyarrhythmia (i.e., bradycardia with concurrent hypotension). If the patient is on an ACEi, recommend not giving this therapy the day of anesthesia. A recheck echocardiogram can be considered in another 6-9 months, once the patient is full grown, sooner if the murmur is worsening in intensity or cardiovascular clinical signs are developing.



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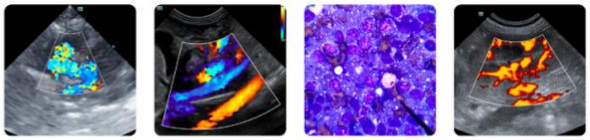

Clinical Sonography & Telecytology
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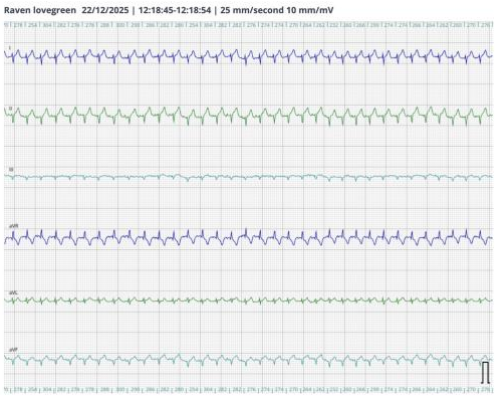


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

Sara Brethel DVM, DACVIM (Cardiology)

info@SonoPath.com