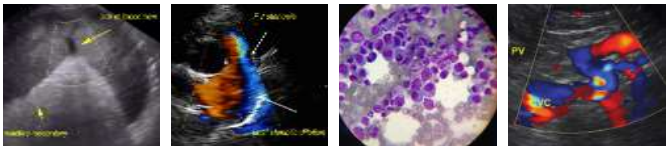
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

**PATIENT**
Jake Solis

**SPECIES**
Canine

**BREED**
Mixed Breed

**SEX**
MN

**AGE**
10 Years

**WEIGHT**
56

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

**IMAGING PERFORMED BY**
Gabriel

**HOSPITAL NAME**
Central Jersey Animal Hospital

**REFERRING VET**
Gabriel

**INVOICE**
48589

**DATE**
11-26-21

## PRESENTING CLINICAL SIGNS

has hx of mitral valve insufficiency had echo done 8 months ago . heis still occasionally coughing ,sometimes heavy breathing and panting . most recent blood work shows mild azotemia which improved after reduce lasix dose by 20 percent currently on lasix 40 mg twice daily , enalapril 5 mg twice daily , vetmedin 5 mg twice daily
Abnormal PE/Chem/CBC/UA Results: cbc,cehm : pending

## 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 | 5.2 | | NM | 2.1 | 52.8 | 87.8 | 0.5 |
| **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 | NM | NM | 0.8 | | 6.5 | 5.3 | |

### *Cardiac Presentation*

The echocardiogram in this patient demonstrated moderate to marked enlarged **left atrial** size based on 3 different LA measurement methods. Deviation of the intraatrial septum towards the right atrium indicative of elevated left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis with subjective abnormal or lack of normal coaptation likely owing to left atrium enlargement. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour with increased left ventricle volume. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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). 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.

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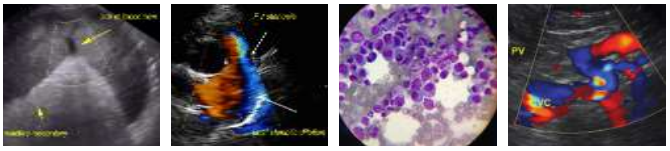

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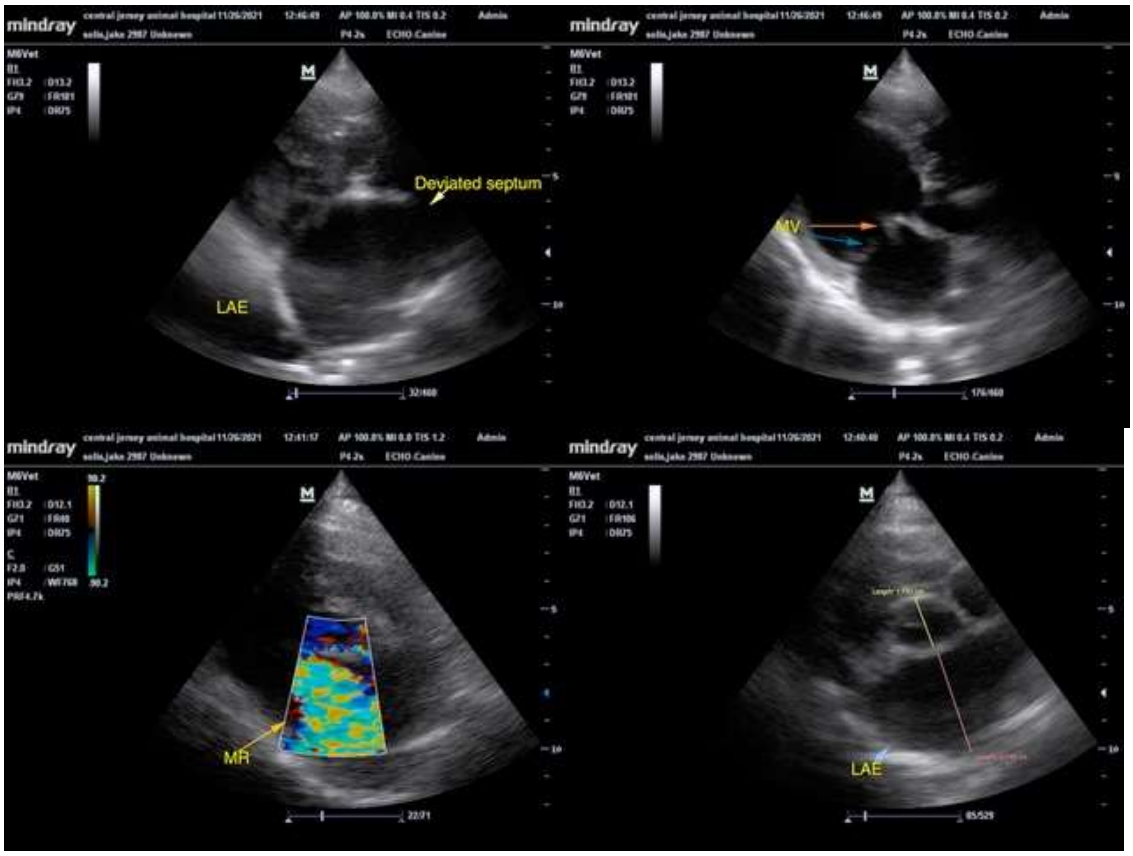
## ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (consistent with ACVIM stage C)
- Moderate to marked left atrium enlargement with concurrent increased left ventricle volume.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram is likely consistent with progressive chronic mitral valve disease with secondary left heart volume overload exhibited by moderate to marked left atrium enlargement and increased left ventricle volume. These findings indicate that the current risk as well as future risk going forward for congestive heart failure is elevated. No other obvious clinical issues such as systolic dysfunction or overt clinical pulmonary hypertension were noted. The occasional cough may be exasperated by the degree of left atrium enlargement and potential irritation or compression of mainstem bronchi.

The addition of hydrocodone to therapy protocol may prove beneficial. Additionally, a Lasix/spironolactone combination may be beneficial. Continued Vetmedin and, if systemic blood pressure greater than 130, continued ace inhibitor are warranted. Correlation with pending CBC and Chemistry panel indicated. Omega fatty acid supplementation and mild salt restriction may be beneficial. Recheck echocardiogram suggested in 6 months or sooner if continued clinical signs consistent with congestive heart disease are noted. Guarded long term prognosis.



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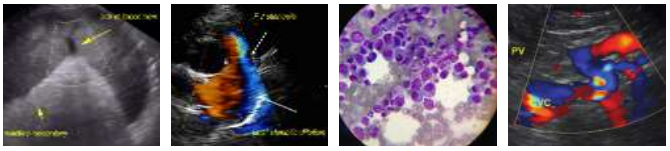

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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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**