



**PATIENT**

Mac Ryan

**SPECIES**

Canine

**BREED**

Spaniel Mix

**SEX**

Male Neutered

**AGE**

14 years

**WEIGHT**

35lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

32230

**DATE**

8/8/23

**PRESENTING CLINICAL SIGNS**

History: Mac is referred to evaluate a heart murmur. At home, he has a resting respiratory rate around 20 but does pant a fair amount. Real limb weakness. He is eating well and remains active for his age. On exam: NSR, grade IV/VI murmur with PMI left apical area, PSS, lung fields clear, mm pink, moist, CRT<2. BP: 150mmHg x 5. Current medications: 1) Gabapentin 100mg 1-2 capsules three times a day 2) Dasaquin daily \*No sedation for study.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and Doppler imaging is available.

**Left ventricle:** The LV diameter is increased with hyperdynamic function. LV wall thicknesses are normal.

**Left atrium:** The left atrium is severely dilated.

**Mitral valve:** The mitral valve is diffusely thickened with prolapse into the left atrial lumen. Marked eccentric mitral regurgitation with a normal velocity.

**Aortic valve/Aorta:** The aortic valve appears thickened with borderline increased outflow velocity; laminar flow. No aortic insufficiency.

**Right ventricle:** Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.

**Right atrium:** Normal RA dimension.

**Tricuspid valve:** The tricuspid valve appears mildly thickened with septal prolapse and mild tricuspid regurgitation; normal velocity.

**Pulmonic valve/Pulmonary artery:** The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.

**Pericardium/other:** No pericardial or pleural effusion noted. No obvious cardiac masses.

**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 120bpm.

**2-Dimensional Measurements**

|                    |     |
|--------------------|-----|
| Ao diam (cm)       | 1.8 |
| LA diam (cm)       | 3.9 |
| LA:Ao (Swe)        | 2.2 |
| IVS thickness (cm) | 0.8 |
| LVID diastole (cm) | 4.4 |
| PW thickness (cm)  | 0.8 |
| LVID systole (cm)  | 2.1 |
| FS (%)             | 51  |

**Doppler Measurements**

|                |     |
|----------------|-----|
| PV Vmax (m/s)  | 0.5 |
| AoV Vmax (m/s) | 0.8 |
| MR Vmax (m/s)  | 6.1 |
| TR Vmax (m/s)  | 2.2 |
| TR PG (mmHg)   | 20  |

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease causing marked mitral and mild tricuspid regurgitation. The LA is significantly dilated indicating an elevated risk for clinical signs going forward. TR is noted with no significant elevation in pulmonary pressures. No additional concurrent issues are documented.

With this degree of left heart changes, the risk for spontaneous congestive heart failure is elevated and cardiac supportive medications are indicated as below. A weak diuretic (spironolactone) is included given high risk for decompensation in the future even with no reported symptoms. I would not hesitate to add Lasix if any respiratory signs are noted in the future. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (late B2/C). Unfortunately, the patient will



**PATIENT** always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.  
**Mac Ryan**

**SPECIES** RECOMMENDATIONS

- Institute Pimobendan 0.3mg/kg PO q12h.
- Institute ACE-I (benazepril or enalapril) 0.5mg/kg PO q12h.
- Institute spironolactone 1-2mg/kg PO q12h.
- If any respiratory signs develop, institute Lasix 1-2mg/kg PO q12h.
- Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Mild activity restriction is advised.
- Elective anesthesia is not advised, as there is high risk for complication. If necessary, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

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PLAN

- A renal panel is recommended in 1-2 weeks, then every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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IMAGES



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**SonoPath**  
Clinical Sonography & Telectology  
EDUCATIONAL TELECONSULTATION SERVICES™  
1-800-838-4268 info@sonopath.com SonoPath.com

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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.

**SPECIES**

Canine

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**BREED**

Spaniel Mix

Maggie Machen Lamy, DVM  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

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**Echocardiogram performed by:** Pamela Harrigan, RDCS  
Pet Animal Ultrasound Service (4paus.com)

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