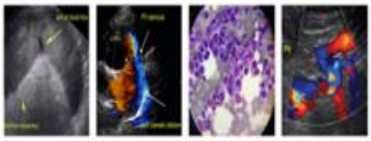
Mass Veterinary Services



SonoPath
Clinical Sonography & Telecytology
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1-800-838-4268 info@sonopath.com SonoPath.com

**PATIENT**
Lorenzo Wallace

**SPECIES**
Canine

**BREED**
Greyhound

**SEX**
Male Neutered

**AGE**
3 years

**WEIGHT**
78.3lbs

**INTERPRETED BY**
Maggie Machen Lamy, DVM DACVIM (Cardiology)

**IMAGING PERFORMED BY**
Pamela Harrigan, RDCS

**HOSPITAL NAME**
Mass Veterinary Services

**REFERRING VET**
Dr. Masloski

**INVOICE**
27320

**DATE**
11/8/22

## PRESENTING CLINICAL SIGNS

History: Recheck echo. History severe subaortic stenosis (Vmax 4.5m/s; 81mmHg); mild AI; thickened MV/TV; moderate LVH on previous echocardiogram (5/24/22 Maggie Machen Lamy, DVM, DACVIM-Cardiology). Lorenzo is doing well at home and has become more exercise tolerant---goes for runs in park every morning. He is eating very well with an occasional bout of diarrhea. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. Gets trazodone for fireworks. Owner did not institute atenolol.; no medications.

## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
**Left ventricle:** The LV chamber is normal with mild to moderate LV hypertrophy. The endocardium appears hyperechoic. Mild papillary muscle hypertrophy.
**Left atrium:** The left atrium is mild to moderately enlarged.
**Mitral valve:** The mitral valve is mildly thickened. Trivial eccentric mitral regurgitation.
**Aortic valve/aorta:** Significant subaortic narrowing with severely increased flow through the region. Max PG 85mmHg. The aortic valve appears trileaflet and mildly thickened. Mild aortic insufficiency. Prominent coronary arteries.
**Right ventricle:** Normal right ventricular diameter and morphology.
**Right atrium:** Mild RA enlargement.
**Tricuspid valve:** The tricuspid valve appears thickened with mild TR. Mildly elevated 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 congenital shunts appreciated. No obvious cardiac masses.
**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 120bpm.

**2-Dimensional Measurements**

| | |
|---|---|
| Ao diam (cm) | 2.5 |
| LA diam (cm) | 4.0 |
| LA:Ao (Swe) | 1.6 |
| IVS thickness (cm) | 1.7 |
| LVID diastole (cm) | 4.5 |
| PW thickness (cm) | 1.7 |
| LVID systole (cm) | 2.5 |
| FS (%) | 44 |

**Doppler Measurements**

| | |
|---|---|
| PV Vmax (m/s) | 1.3 |
| AoV Vmax (m/s) | 1.6 |
| MR Vmax (m/s) | NA |
| TR Vmax (m/s) | 3.2 |
| TR PG (mmHg) | 41 |

## INTERPRETATION OF THE FINDINGS

Severe subaortic stenosis (SAS) persists with stable left heart disease. The LV wall dimensions are unchanged and the velocity through the stenosis is stable. Of some concern, mild pulmonary hypertension has developed with mild right atrial enlargement, which should be monitored going forward. No additional issues are identified.

Given these findings, Atenolol is still recommended as previously described. No obvious indication for additional medications at this time. It is noted that the patient is highly active at home, which must be advised against. Patient's with LV hypertrophy carry high risk for acute sudden arrhythmic death, and exertion can further increase this risk.

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Prognosis remains guarded yet highly variable, with many dogs in the severe category succumbing to malignant arrhythmias by mid-life and others maintaining asymptomatic status long term. Serial echocardiography is recommended lifelong to assess for progression and risk for complication.

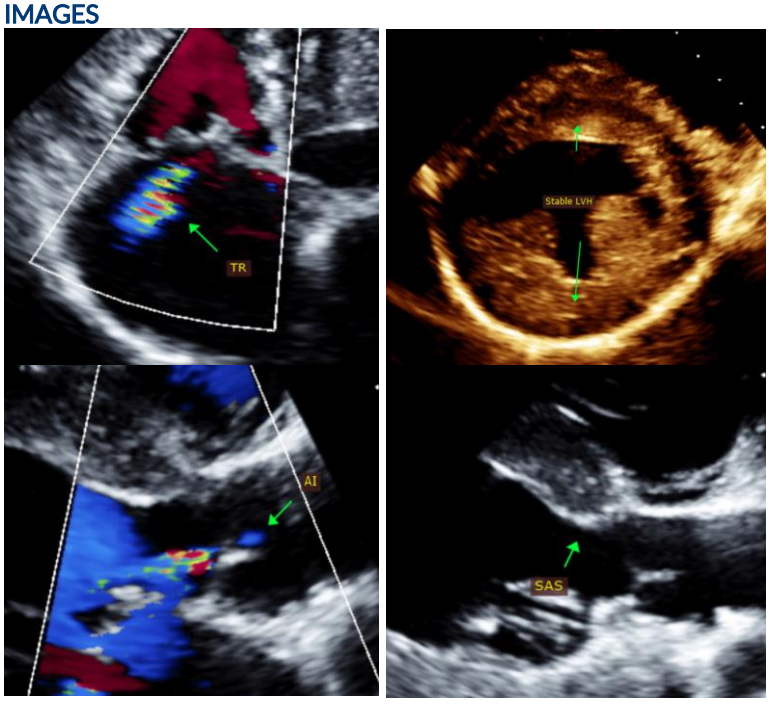
## RECOMMENDATIONS

- Consider Atenolol as previously recommended.
- Consider hydrocodone for the cough if indicated.
- **Lifelong activity restriction is advised.**
- Omega fatty acid supplementation and mild salt restriction may be of some long term anti-arrhythmic benefit.
- Anesthetic risk is moderate if needed. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated. Avoid ketamine and acepromazine due to systemic vascular effects. Pre-oxygenate for 5-10 minutes prior to induction. A reasonable protocol includes opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas. Mild IV fluid restriction is advised. Recommend prophylactic antibiotics for any orthopedic or dental procedure in the future given predisposition to endocarditis. Monitor for arrhythmias both intra and post-operatively.
- Monitor for development of labored breathing, exercise intolerance or collapse episodes, as AS patients are more predisposed to development of arrhythmias than to CHF.
- Moderate lifelong exercise restriction is advised.

## PLAN

- Recommend conservative monitoring with a recheck echocardiogram annually, sooner if any development of clinical signs.

## IMAGES



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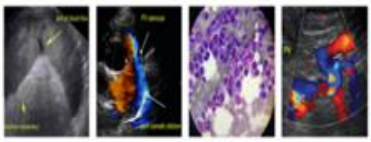

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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

Thank you for this referral. 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.

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

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