

**PATIENT**

Papi Pizarro

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Male Neutered

**AGE**

9 years

**WEIGHT**

16.2lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Airport Animal  
Hospital

**REFERRING VET**

Dr. Gudluru

**INVOICE**

20460

**DATE**

8/10/21

**PRESENTING CLINICAL SIGNS**

History: Papi presented for a salivary mucocele. On exam, a grade IV/VI systolic murmur was heard. Echocardiogram prior to surgery. BP: 180mmHg x 2; 200mmHg x 3.

**ECHOCARDIOGRAM FINDINGS**

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

**Left ventricle:** Mild LV dilation with hyperdynamic function. LV wall thicknesses are normal.

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

**Mitral valve:** The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with an elevated velocity.

**Aortic valve/Aorta:** The aortic valve is normal in morphology and mobility. Normal aortic 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 thickened with 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)       | 1.5  |
| LA diam (cm)       | 2.6  |
| LA:Ao (Swe)        | 1.7  |
| IVS thickness (cm) | 0.64 |
| LVID diastole (cm) | 2.75 |
| PW thickness (cm)  | 0.64 |
| LVID systole (cm)  | 1.2  |
| FS (%)             | 58   |

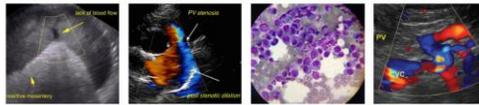
**Doppler Measurements**

|                |     |
|----------------|-----|
| PV Vmax (m/s)  | 0.6 |
| AoV Vmax (m/s) | 1.2 |
| MR Vmax (m/s)  | 6.3 |
| TR Vmax (m/s)  | 2.7 |
| TR PG (mmHg)   | 28  |

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease causing moderate mitral and mild tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication, however risk for progression to spontaneous congestive heart failure in the future is elevated. An elevated MR velocity is noted, and lifelong BP monitoring is advised. No additional issues are identified.

Given these findings, Pimobendan is recommended as below. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).



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The reported blood pressure is elevated and should be reassessed for accuracy particularly given no reported clinical signs of severe hypertension (retinal changes, etc.) or evidence of LVH on echo. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally, if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushings, PLN, adrenal tumor, etc.), as primary disease is relatively uncommon and a rule out diagnosis.

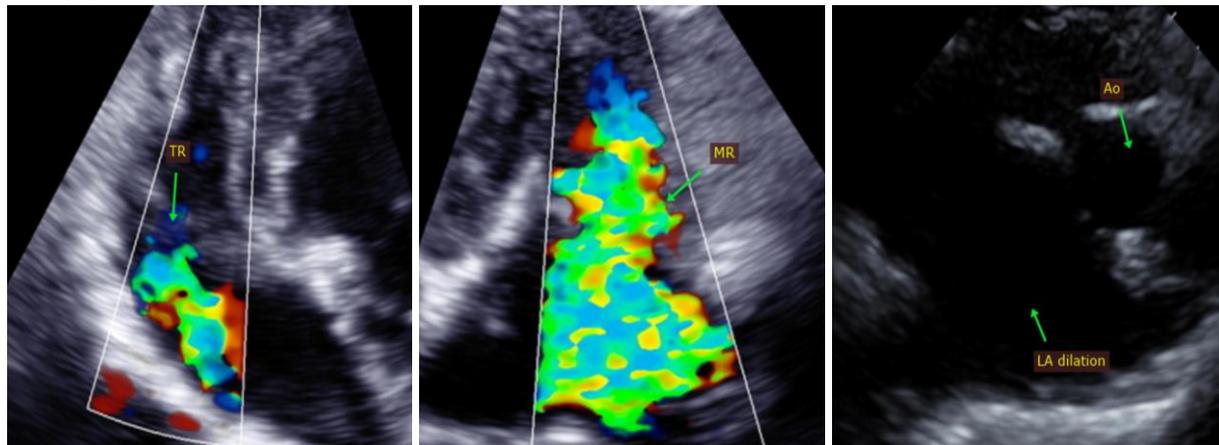
**RECOMMENDATIONS**

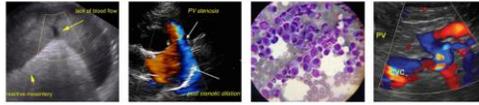
- Institute heart muscle support Pimobendan 0.3mg/kg PO q12h.
- Reassess BP as discussed.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Once on Pimobendan for 3-5 days, anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

**PLAN**

- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

**IMAGES**





**PATIENT**

Papi Pizarro

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.

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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**

Shih Tzu

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

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