

**PATIENT**

Canela Bella Torres

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Female Intact

**AGE**

14 years

**WEIGHT**

4.4lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Wignall Animal  
Hospital

**REFERRING VET**

Dr. Cringan

**INVOICE**

22265

**DATE**

12/2/21

**PRESENTING CLINICAL SIGNS**

History: Seen at eclinic for vestibular episode, grade IV/VI holosystolic murmur heard. Current medication: Gabapentin liquid- 0.8ml BID.

**ECHOCARDIOGRAM FINDINGS**

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

**Left ventricle:** The LV diameter is normal with adequate myocardial function. LV wall thicknesses are mild to moderately increased globally. Hyperechoic hypertrophied papillary muscles.

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

**Mitral valve:** The mitral valve is normal. No MR.

**Aortic valve/Aorta:** The aortic valve is thickened with abnormal morphology. Three cusps are visualized. Lack of coaptation can be seen in diastole. The sub-valvular region appears largely normal. Aortic outflow velocity consistent with severe stenosis; severe 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 normal with no tricuspid regurgitation.

**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 140bpm.

**2-Dimensional Measurements**

Ao diam (cm)	1.2
LA diam (cm)	1.6
LA:Ao (Swe)	1.3
IVS thickness (cm)	0.6
LVID diastole (cm)	1.9
PW thickness (cm)	0.6
LVID systole (cm)	0.9
FS (%)	55

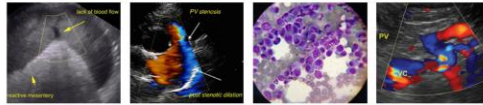
**Doppler Measurements**

PV Vmax (m/s)	0.75
AoV Vmax (m/s)	4.5
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

**INTERPRETATION OF THE FINDINGS**

Unusual case. The cause of the murmur is severe aortic stenosis (AS) causing severely elevated blood flow velocity through the LVOT and aortic root. The valve is clearly abnormal without appropriate motion or closure. This is unusual to diagnose in a senior animal; however, the acquired form of stenosis is extremely unlikely. The LV walls are increased in dimension indicating chronic pressure overload which would support a more long-term issue as well. The LA is mildly dilated, and no additional issues are identified.

No surgical intervention is widely available at this time; however, advanced options could be discussed at an academic institution. As a more reasonable approach in a senior animal, medical management through heart rate control is recommended as below in hopes of maintaining asymptomatic status long term. Additionally, a baseline blood pressure is recommended with institution of a vasodilator if >130mmHg to help decrease the aortic leak.



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Prognosis is guarded yet highly variable in a senior dog as this patient has already outlived expectation. Serial echocardiography is recommended lifelong to assess for progression and risk for complication.

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**RECOMMENDATIONS**

- Baseline BP recommended with institution of an ACE-I if >130mmHg.
- Institute atenolol to effect: 0.5-1.5mg/kg SID-BID (up-titrate to desired effect). Goal is to suppress heart rate <130bpm even with stress/activity.
- Omega fatty acid supplementation and mild salt restriction may be of some long term anti-arrhythmic benefit.
- Once Atenolol is initiated, anesthetic risk is mild if needed. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated. Avoid ketamine and acepromazine due to systemic vascular effects. Mild IV fluid restriction is advised. **Recommend prophylactic antibiotics for any orthopedic or dental procedure in the future given predisposition to endocarditis.**
- 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.

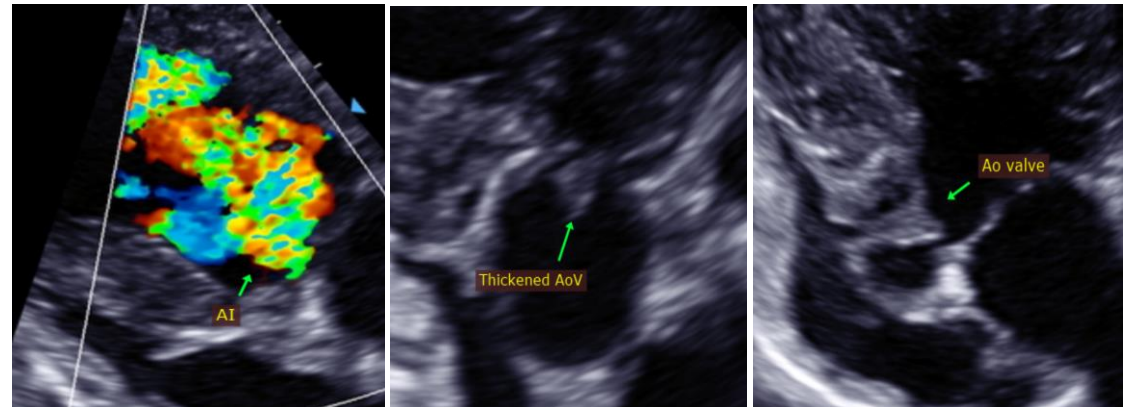
**PLAN**

- Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

**INTERPRETED BY**

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**IMAGES**



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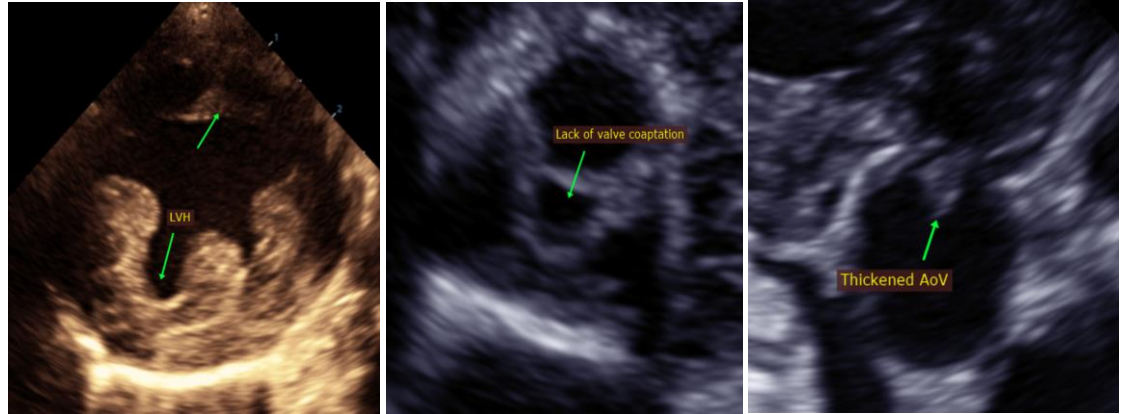
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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 info@sonopath.com