



**PATIENT**

Cici Laflamme-Bernier

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Female Spayed

**AGE**

11 years

**WEIGHT**

14.8lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

25801

**DATE**

8/16/22

**PRESENTING CLINICAL SIGNS**

History: Cici presented for coughing. No labored breathing reported, although has some exercise intolerance. She has been sleeping a bit more recently but will still play. Her appetite is normal for her. Radiographs: cardiomegaly; LAE; broncho-alveolar pattern in perihilar area; diffuse mild to moderate broncho-interstitial pattern caudal lung fields; mild to moderate collapse main stem bronchus; narrowing of trachea within cervical area. Started pimobendan 3.75mg 1/2 tab twice a day; Lasix 12.5mg 1 tab twice a day; diphenoxylate with atropine 2.5mg 1/4 tab twice a day. On exam: NSR, grade IV-V/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP: 140mmHg x 5. \*No sedation for study.

**ECHOCARDIOGRAM FINDINGS**

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

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

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

**Mitral valve:** The mitral valve is thickened with a ruptured chordae tendineae suspected (see below) and a flail anterior leaflet. Moderate to severe eccentric mitral regurgitation with a normal velocity.

**Aortic valve/aorta:** The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. Normal aortic insufficiency.

**Right ventricle:** Normal right ventricular.

**Right atrium:** Normal RA.

**Tricuspid valve:** The tricuspid valve is normal with trace tricuspid regurgitation. Velocity consistent with early pulmonary hypertension.

**Pulmonic valve/pulmonary artery:** The pulmonic valve is normal in morphology and mobility. Mild 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. A single VPC is noted.

**2-Dimensional Measurements**

Ao diam (cm)	1.7
LA diam (cm)	2.7
LA:Ao (Swe)	1.6
IVS thickness (cm)	0.7
LVID diastole (cm)	3.8
PW thickness (cm)	0.6
LVID systole (cm)	1.5
FS (%)	60

**Doppler Measurements**

PV Vmax (m/s)	0.93
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	6.0
TR Vmax (m/s)	2.9
TR PG (mmHg)	33

**INTERPRETATION OF THE FINDINGS**

The cause of the murmur is chronic degenerative valve disease causing moderate to severe mitral and trace tricuspid regurgitation. While moderate left atrial enlargement typically indicates a low risk for imminent complication, the finding of a ruptured chord certainly increases this risk. Mild pulmonary hypertension is noted, which should be monitored going forward. No concurrent issues such as systolic dysfunction are noted in this study.

Given these findings and the reported CXR results, CHF is supported, and full cardiac support is recommended as below. Concurrent airway disease is also a possibility in this breed and repeat CXR may be useful.



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Prognosis is guarded long-term with most CHF cases succumbing within 8-12 months. That being said, if the patient is able to be stabilized there is some potential for an improved outcome given a lack of significant chamber enlargement. Follow up will help dictate long term picture.

**SPECIES**  
Canine

**RECOMMENDATIONS**

- Administer Pimobendan 0.25-0.3mg/kg PO q12h.
- Administer Lasix 1-2mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Institute ACE-I 0.5mg/kg PO q12h.
- Consider repeat CXR for comparison.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised at this time.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Monitor sleeping breathing rates at home as the best way to monitor for recurrent issues.

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**PLAN**

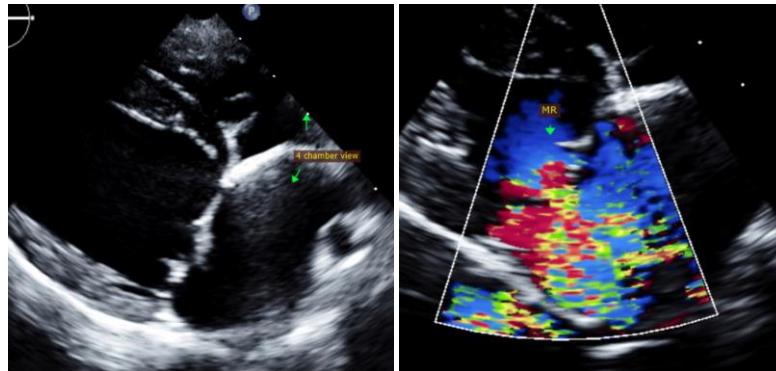
- Monitor renal panel and BP every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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**IMAGES**

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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.

**REFERRING VET**

Dr. Masloski

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.

**INVOICE**

25801

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**DATE**

8/16/22

**Echocardiogram performed by:**

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Pet Animal Ultrasound Service (4paus.com)