



**PATIENT**

Betty Caporelli

**PRESENTING CLINICAL SIGNS**

History: Puppy from breeder with grade V/VI systolic murmur. No clinical signs.

**SPECIES**

Canine

**ECHOCARDIOGRAM FINDINGS**

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

**Left ventricle:** The LV diameter is normal with adequate myocardial function. Mild LVH with a hyperechoic endocardium consistent with fibrosis. The papillary muscles are hyperechoic as well.

**BREED**

Finnish Lapphund

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

**Mitral valve:** The mitral valve is thickened with abnormal closure. Mild mitral regurgitation. Systolic anterior motion is suspected.

**SEX**

Female Intact

**Aortic valve/Aorta:** The aortic valve is thickened with abnormal excursion. Moderately elevated aortic outflow velocities consistent with stenosis. Trace aortic insufficiency.

**Right ventricle:** The RV chamber is increased with marked RV and infundibular hypertrophy. The degree of hypertrophy is causing a subvalvular stenosis through the region. Septal flattening in systole.

**AGE**

8 weeks

**Right atrium:** Moderate RA dilation.

**Tricuspid valve:** The tricuspid valve appears mildly thickened with trace tricuspid regurgitation. Elevated velocity; secondary to PS.

**WEIGHT**

9lbs

**Pulmonic valve/Pulmonary artery:** Pulmonic outflow velocities are severely elevated at the level of the valve. The pulmonic valve appears markedly abnormal, asymmetric and thickened with mild pulmonic insufficiency. There is significant post-stenotic dilation of the main pulmonary artery and branches.

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

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

**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 150bpm. The QRS is inverted.

**2-Dimensional Measurements**

Ao diam (cm)	0.8
LA diam (cm)	1.3
LA:Ao (Swe)	1.6
IVS thickness (cm)	0.78
LVID diastole (cm)	1.5
PW thickness (cm)	0.58
LVID systole (cm)	0.6
FS (%)	60

**Doppler Measurements**

PV Vmax (m/s)	5.8
AoV Vmax (m/s)	3.5
MR Vmax (m/s)	NM
TR Vmax (m/s)	4.5
TR PG (mmHg)	80

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Wood River Animal  
Hospital

**INTERPRETATION OF THE FINDINGS**

Complex congenital heart disease is present with abnormalities associated with all four valves. The most hemodynamically significant finding is valvular and subvalvular pulmonic stenosis secondary to infundibular hypertrophy. The degree of obstruction is severe based upon the velocity and degree of hypertrophy of the right ventricle. There is also a small tricuspid leak, no doubt impacted by the stenosis; however, the tricuspid valve appears mildly thickened as well. Additionally, the left heart is abnormal with moderate aortic stenosis and an abnormal aortic valve. This has led to LV fibrosis with mild hypertrophy, which is highly concerning at such a young age. Finally, the mitral valve

**REFERRING VET**

Dr. Fischer

**INVOICE**

23837

**DATE**

4/22/22



**PATIENT**

Betty Caporelli

appears abnormal, consistent with dysplasia and at least a mild dynamic component of the LVOT obstruction is suspected.

**SPECIES**

Canine

Referral for consultation, consideration of possible balloon valvuloplasty and lifelong management should be considered in this patient with the goal of delaying onset of clinical signs (including exertional syncope and right-sided congestive heart failure). There is no treatment for aortic stenosis at this time; however, this abnormality appears less significant. If consultation with a Cardiologist is declined, Atenolol is certainly recommended in this case; however, I would not institute until the patient is at least 4 months of age.

**BREED**

Finnish Lapphund

**SEX**

Female Intact

This patient's condition will no doubt limit lifespan given multiple issues, with risk for development of CHF early to mid-life. There is also great risk for malignant arrhythmias or sudden death, give the appearance of both ventricles.

**AGE**

8 weeks

Overall, the prognosis is guarded to poor, and euthanasia should be elected if the patient's quality of life suffers at any time. This patient is at high risk for right-sided CHF (ascites/effusions), development of exertional syncope and/or malignant arrhythmias lifelong.

**WEIGHT**

9lbs

**RECOMMENDATIONS**

- Referral for consultation with a local Cardiologist if desired.
- If declined, at 4 months of age, institute atenolol to effect: 25mg tabs, ¼ tab PO SID to start. Goal is to suppress heart rate <120-140bpm even with stress/activity.
- If any change in RR/RE or abdominal distention noted, reassess for effusion accumulation as discussed.
- If quality of life suffers at any time, euthanasia should be elected.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised.
- Monitor for development of labored breathing, progressive cough, exertional collapse episodes, abdominal distention or exercise intolerance in the future.
- Lifelong activity restriction is advised while maintaining QOL.

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**PLAN**

- If referral is declined, recommend recheck echocardiogram in 6 months to screen for progression, sooner if any development of clinical signs.

**HOSPITAL NAME**

Wood River Animal  
Hospital

**REFERRING VET**

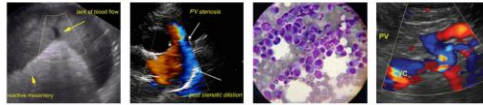
Dr. Fischer

**INVOICE**

23837

**DATE**

4/22/22



**PATIENT**

Betty Caporelli

**SPECIES**

Canine

**BREED**

Finnish Lapphund

**SEX**

Female Intact

**AGE**

8 weeks

**WEIGHT**

9lbs

**INTERPRETED BY**

Maggie Machen  
 Lamy, DVM  
 DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
 RDCS

**HOSPITAL NAME**

Wood River Animal  
 Hospital

**REFERRING VET**

Dr. Fischer

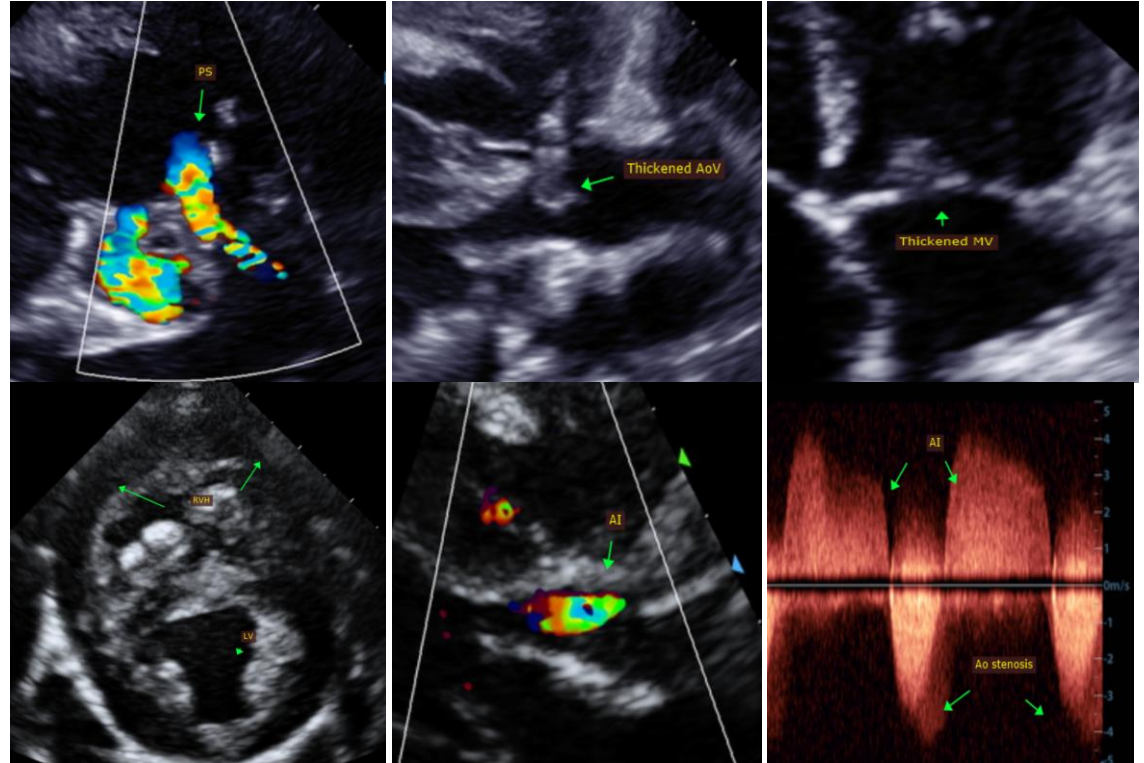
**INVOICE**

23837

**DATE**

4/22/22

**IMAGES**



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  
 Diplomat of the American College of Veterinary Internal Medicine (Cardiology)  
 info@sonopath.com