



PATIENT

Mermaid Leon

SPECIES

Feline

BREED

DSH

SEX

Female Spayed

AGE

6 years

WEIGHT

9.6

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

T. Tenorio, DVM

HOSPITAL NAME

Wauwatosa Vet

REFERRING VET

Dr. Oakes

INVOICE

23902

DATE

4/27/22

PRESENTING CLINICAL SIGNS

History: Grade IV/VI heart murmur, pulses strong and synchronous.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
Cardiomegaly with right-sided enlargement. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS

A three lead ECG is available. The average heart rate is 188bpm with a regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The MV appears largely normal. No obvious mitral regurgitation. Normal left atrial dimension. Decreased LV diameter with adequate myocardial function. The LV walls are largely normal. A muscular ventricular septal defect is present. The aortic root appears dilated and over-riding the septum. VSD flow is difficult to evaluate without Spectral doppler. The tricuspid valve appears normal in form however mild tricuspid regurgitation is present. Mild right atrial dilation. Significant right ventricular hypertrophy and remodeling indicative of pressure overload. Flattening of the IVS from some views. The pulmonic outflow velocities are elevated, although a max is not assessed. Post stenotic dilation is seen; however, the pulmonic valve is poorly visualized. No obvious pulmonic insufficiency. The aortic valve appears to have normal morphology and mobility. Dilated aortic root. No obvious cardiac shunts are visualized. No pericardial or pleural effusion noted.

CARDIAC CHART

| FELINE CARDIAC PARAMETERS | BODY WEIGHT | HR (BPM) | IVSd (cm) (Moise, Pipers) | LVIDd (cm) (Moise, Pipers) | LVWd (cm) (Moise, Pipers) | FS (%) | EF (%) |
|---------------------------|--------------|---------------------------------|--|----------------------------|---------------------------|----------------|-------------|
| NORMAL PARAMETER | ----- | 150-240 | 0.35-0.55 | <2 (mean 1.5) | 3.5-0.55 | 35-67 | 80-100 |
| PATIENT | 9.6 | NM | 0.51 | 1.0 | 0.4 | 52 | 87 |
| FELINE CARDIAC PARAMETERS | LA/AO (Boon) | LA/AO HEART BASE (Swe) (Abbott) | LA 2D short axis Base view (cm) (Abbott) | | LVOT VEL (m/s) | RVOT VEL (m/s) | E max (m/s) |
| NORMAL | <1.5 | <1.3 | <1.2 | | <1.6 | <1.3 | <0.9 |
| PATIENT | NM | 1.1 | 1.1 | | 0.9 | 0.82 | NM |

**Note: All measurements based upon multi-modal images and methods. An average value is reported.*
Adapted from June Boon, Veterinary Echocardiography, 1998
Abbott J & MacLean H JVIM 2006;20: 111-119, Moise et al. Am J Vet Res 47:1476, 1986. Pipers et al. Am J Vet Res 40:882, 1979.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The most likely diagnosis is Tetralogy of Fallot, indicating the presence of a VSD, RV hypertrophy, pulmonic stenosis and over-riding aorta. The pulmonary artery appears dilated past the level of the valve, which likely suggests a valvular stenosis; however, this is not confirmed. The LA is normal indicating low risk for left-sided complication. The right atrium is mildly enlarged; however, this may certainly progress going forward. The ECG is unremarkable with a normal sinus tachycardia.

Referral is highly recommended in any complex congenital case, due to the severity and rarity of issues, to confirm the diagnosis through advanced imaging, and consider therapeutic options going forward. In some cases Atenolol is beneficial; however, in a 6-year-old cat with what appears to be relatively balanced disease and no symptoms, I would not institute at this time.

Long term prognosis is guarded, given the age of the patient and lack of clinical signs. That being said, there will always be risk for CHF (right sided), development of blood clots, exertional syncope and/or malignant arrhythmias/sudden death in the future.

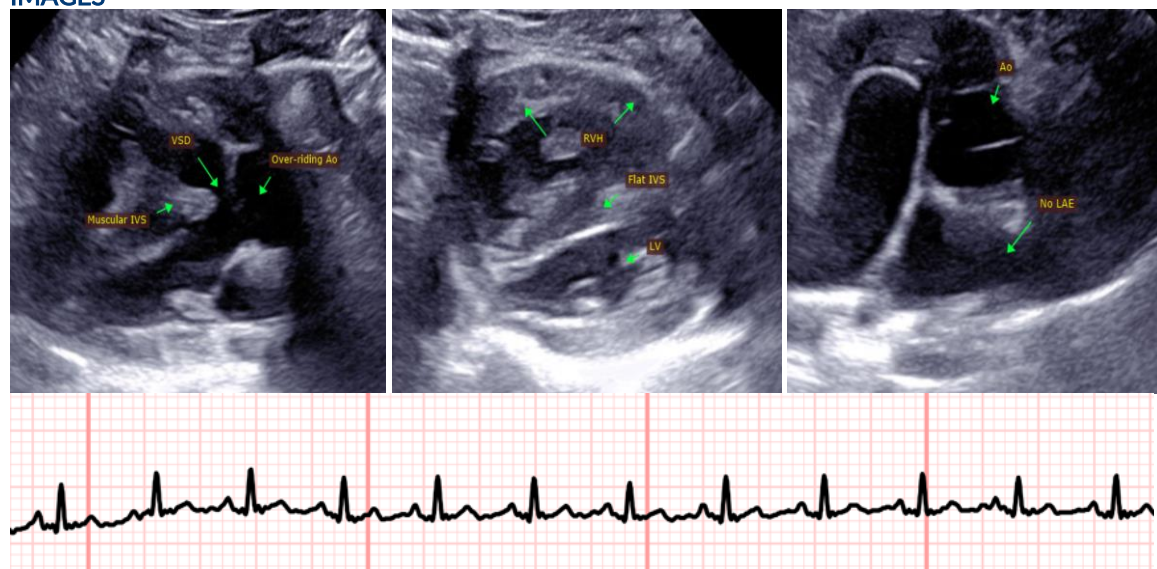
Sedation with butorphanol is typically safe in cardiac cases, however anesthetic risk is elevated. General anesthesia should be avoided unless absolutely necessary, and referral to a facility with an anesthesiologist considered.

Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.). Monitoring of sleeping breathing rates at home is recommended as the best way to screen for progression to CHF at home.

PLAN

Highly recommend referral for reassessment in the future and lifelong monitoring. If declined, recheck echocardiogram in 6-12 months, sooner if any clinical signs develop in the interim.

IMAGES





PATIENT

Mermaid Leon

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.

SPECIES

Feline

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

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