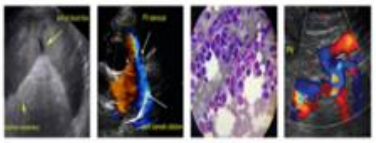
Mass Veterinary Services



SonoPath Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Finn 2nd Chance Rescue

SPECIES
Feline

BREED
DSH

SEX
Male Intact

AGE
2 years

WEIGHT
9.1lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
27378

DATE
11/9/22

PRESENTING CLINICAL SIGNS

History: Finn was noted to have a heart murmur in October. He needs to be neutered prior to potential adoption. He is eating well and playful. On exam: NSR, grade IV-V/VI parasternal murmur, PSS, lung fields clear, compressible thorax, mm pink, moist, CRT<2. BP: 140mmHg x 3. No medications *Sedated with propofol for study.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: A perimembranous VSD (0.20cm) is identified with right to left low velocity flow; 2.0m/s. The LV diameter is normal with adequate myocardial function. LV wall thicknesses are normal. Septal flattening in systole.
Left atrium: The left atrium is normal. No obvious spontaneous contrast.
Mitral valve: The mitral valve appears normal with no mitral regurgitation visualized.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. The aortic root is dilated. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The RV is moderately enlarged with moderate hypertrophy and remodeling. An obstruction can be seen through the mid-RV, consistent with a double chamber right ventricle. Max velocity through the region is 4m/s.
Right atrium: Moderate RA dilation.
Tricuspid valve: The tricuspid valve appears normal with no tricuspid regurgitation.
Pulmonic valve/Pulmonary artery: The pulmonic valve appears normal. No pulmonic insufficiency. Velocity through the pulmonic valve is normal with no evidence of a valvular stenosis. Dilation through the sub-valvular region is noted.
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)	1.0
LA:Ao (Swe)	0.9
IVS thickness (cm)	0.37
LVID diastole (cm)	0.83
PW thickness (cm)	0.50
LVID systole (cm)	0.43
FS (%)	50

Doppler Measurements

PV Vmax (m/s)	3.8
AoV Vmax (m/s)	0.9
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Two major congenital abnormalities are identified, with a double chamber right ventricle (DCRV) and ventricular septal defect (VSD). The physiology with these two concurrent findings is similar to a Tetralogy of Fallot, with right to left shunting across the VSD. This is due to elevated right ventricular pressure, secondary to the DCRV leading shunt reversal. Fortunately, the VSD is relatively small with a relatively small shunt fraction. The right heart is moderately enlarged, which will likely suggest risk for complication going forward from the DCRV, which is of greater hemodynamic concern at this point. The remainder of the study is largely unremarkable without significant left heart disease.

Given these findings, recommend Atenolol in this case to decrease heart rate and relieve some of the RV pressure gradient. Additionally, Plavix could be considered due to right atrial enlargement; however, it can be difficult to administer. No obvious indication for

Mass Veterinary Services

SonoPath Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Finn 2nd Chance Rescue

SPECIES
Feline

BREED
DSH

SEX
Male Intact

AGE
2 years

WEIGHT
9.1lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
27378

DATE
11/9/22

additional medications at this time. It should be noted that this patient is at risk for cyanotic heart disease and periodic assessment of hematocrit is recommended to screen for hemoconcentration and need for phlebotomy.

Prognosis is guarded to poor; however, an asymptomatic patient at 2 years old is a good sign. Patient will always be at high risk for CHF (right -sided), development of blood clots, syncope and/or malignant arrhythmias/sudden death in the future.

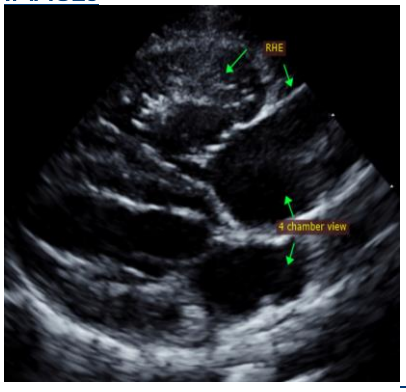
RECOMMENDATIONS

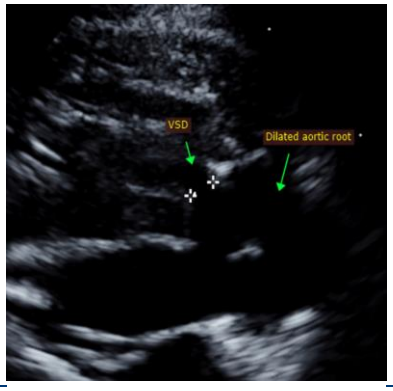
- Institute Atenolol 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration. Increase as needed until target reached.
- If able, institute Plavix 75mg tabs; Give ¼ tab by mouth every 24 hours (NOTE: bitter along cut edge, may cause foaming at the mouth; coat in entirety).
- Monitor hematocrit every 6 months, sooner if any syncope or cyanosis is noted.
- Monitoring of sleeping breathing rates at home is recommended as the best way to screen for progression to CHF at home.
- **Elective anesthesia is not advised.** If necessary, consider referral to a facility with an Anesthesiologist. If not possible, recommendations are as follows: cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc. **Avoid heart rate stimulating drugs such as atropine unless clinically indicated.**

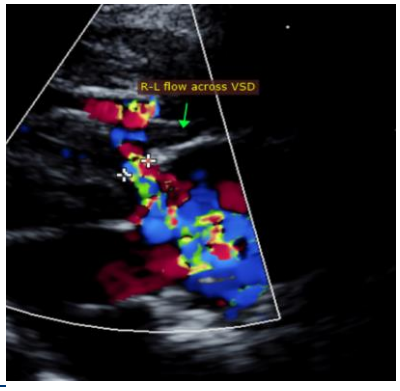
PLAN

- A recheck echocardiogram is recommended annually, sooner if clinical signs arise in the interim.

IMAGES







Mass Veterinary Services

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Finn 2nd Chance Rescue

SPECIES
Feline

BREED
DSH

SEX
Male Intact

AGE
2 years

WEIGHT
9.1lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

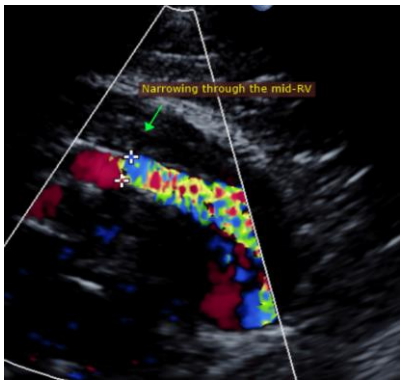
IMAGING PERFORMED BY
Pamela Harrigan, RDCS

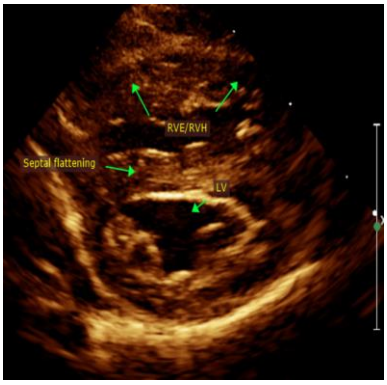
HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
27378

DATE
11/9/22





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

Echocardiogram performed by: Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)