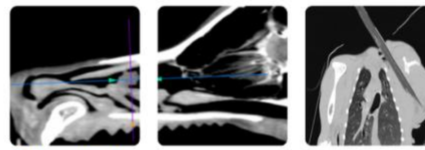


SonoPath www.thefocalzone.com info@thefocalzone.com 289.808.2608

PATIENT

Binx Robyn

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

3 Years

WEIGHT

5.05 kg

INTERPRETED BY

Sara Brethel DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Amanda Stewart

HOSPITAL NAME

Holliday VH

REFERRING VET

Dr. Minardi

INVOICE

35948

DATE

12/17/25

PRESENTING CLINICAL SIGNS

History: Presented to the Emergency Veterinary Clinic Dec 14th due to respiratory distress. Thoracic radiographs revealed generalized cardiomegaly with dilation of the pulmonary vessels, pulmonary edema and scant pleural effusion. Snap Pro-BNP was abnormal. Hospitalized and stabilized overnight in O2 cage. Given Butorphanol 0.2 mg/kg q6-8h, furosemide 2mg IM q4h and Pimobendan 0.25mg PO q12h. Improved dramatically overnight and discharged the following morning. Recheck with me Dec 16th, he appeared comfortable and stable. Resting RPM 44, Grade III/VI systolic murmur noted. Current Medications Furosemide 10mg PO TID & Vetmedin 1.25mg PO BID.

Abnormal PE/Chem/CBC/UA Results: Stress hyperglycemia 9.3 and mild hypochloremia (110) Radiographic Findings Radiographs attached Primary Question to Be Answered in This Exam Is there a congenital heart defect? Cardiomyopathy? Are current medications/dosages appropriate? Prognosis?

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

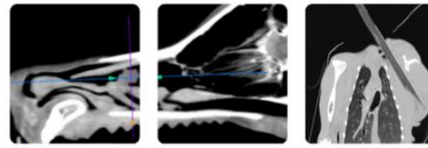
FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	5.05	NM	0.48	1.14	0.54	--	--
FELINE CARDIAC PARAMETERS	**LA/AO** (M-mode)	**LA/AO HEART BASE** (Sisson)	**LAD** LA MAX 4 Chamber		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	1.17	0.95	--		1.68	2.44	NM

Adapted from June Boon, Veterinary Echocardiography,1998
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

LVIDs: 0.3, MR VMAX: ~4.0

Cardiac Presentation

The mitral valve leaflets are normal and there is mild mitral regurgitation. There is no prolapse of the mitral valve leaflets. The left atrial size is within normal limits. Left ventricular systolic function appears preserved. Left ventricular diastolic dimensions are within normal limits. There is evidence of systolic anterior motion of the mitral valve and there is a discrete step up in velocities through the left ventricular outflow tract There is evidence of a kissing lesion at the level of SAM and the left ventricular myocardium appears hyperechoic in some regions. Left ventricular walls measure normal to equivocally hypertrophied and portions of the left ventricular myocardium are hyperechoic. There is normal right atrial size without evidence of tricuspid regurgitation. There is no prolapse of the tricuspid valve leaflets and no evidence of pulmonary hypertension on the images provided. The right ventricle appears normal in structure and function subjectively. The aortic and pulmonic valves have



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normal morphology. Pulmonic outflow velocities suggest a dynamic right ventricular outflow tract obstruction. There is no evidence of pulmonic or aortic insufficiency. The aorta appears normal. The pulmonary artery and associated branches appear normal. There is no evidence of pleural effusion. There is scant pericardial effusion. No intracardiac masses are identified.

ULTRASONOGRAPHIC FINDINGS

- Equivocal concentric hypertrophy
- Normal left atrial size
- Scant pericardial effusion
- Mitral regurgitation
- Systolic anterior motion of the mitral valve
- Mild subclinical left ventricular outflow tract obstruction
- Dynamic right ventricular outflow tract obstruction

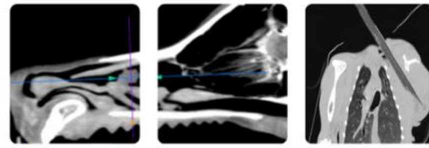
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient has equivocal concentric hypertrophy of the left ventricle, and the left ventricular myocardium appears hyperechoic. The left atrial size is normal. There is scant pericardial effusion. Given the history, there is concern for a transient ischemic event, such as transient myocardial thickening. Given the age, I recommend ensuring the patient is up to date on heart worm, flea, and tick prevention, and also consider full infectious disease testing, particularly evaluating for evidence of bartonella. Can also consider a troponin, however, within three weeks, typically levels start to plateau and normalize after the original insulting event, therefore, even if the troponin is normal, a transient ischemic event or myocarditis cannot be ruled out. Primary cardiomyopathy is also possible, consider less likely, given the acute on set of clinical signs and the echocardiographic images provided, however, it is possible for there to be progression, and close continued monitoring is recommended.

Due to the normal left atrial size, I recommend discontinuation of diuretic therapy, so stopping furosemide therapy and continuing the current pimobendan. Caution is advised when stopping diuretic therapy, as the heart can re-enlarge, especially with the high doses that the patient is currently receiving.

Close monitoring is recommended. The client should start monitoring respiratory rate and effort at home if not already doing so. The resting respiratory rate should be < 35-40 breathes/minute when the patient is resting or sleeping. If the breathing rates are increasing, then chest radiographs are recommended. If there is change to breathing rates, recommend obtaining additional chest radiographs and evaluating to determine if diuretic therapy is recommened. If you do need to restart it, I would recommend starting at a dose of 1.0 – 1.5 mg/kg twice daily.

If doing well off of diuretics, and infectious disease testing is negative, then a recheck echo is recommended in 2-4 months to evaluate for any additional remodeling and any worsening of the pericardial effusion, sooner if the patient is decompensating.



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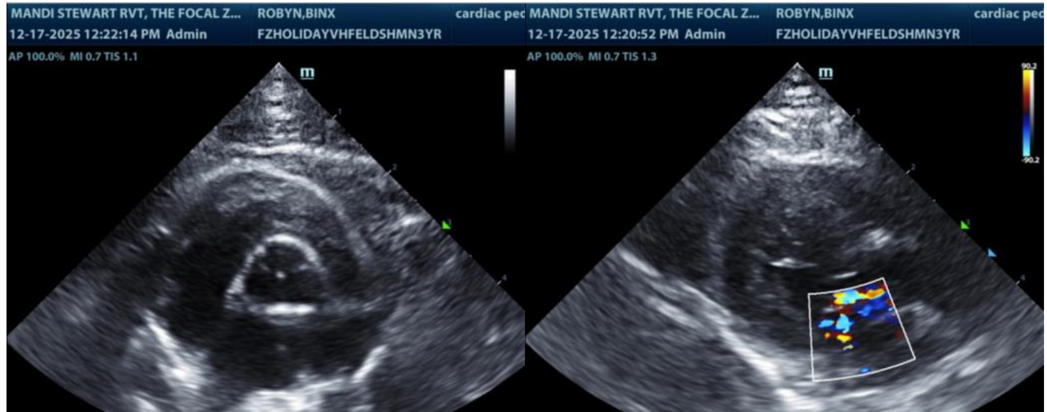

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Sara Brethel DVM, DACVIM (Cardiology)

info@SonoPath.com