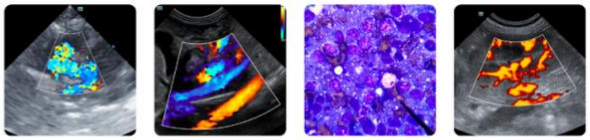


PATIENT

Tortoro Violette

SPECIES

Feline

BREED

DMH

SEX

Neutered Male

AGE

1 Year

WEIGHT

11.7 Pounds

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Dr. Sang Han

HOSPITAL NAME

Oso Pet Care Center

REFERRING VET

Dr. Sang Han

INVOICE

37152

DATE

5/19/26

PRESENTING CLINICAL SIGNS

History: has polyp from the right ear came in for anesthesia today and found heart murmur (3/6) , a month ago the murmur wasn't noticed from rescue group vet visit either; most likely a brand new murmur.

Abnormal PE/Chem/CBC/UA Results: Systolic murmur, otherwise acting and eating normal, no weight loss, blood work was unremarkable. Strong positive on ProBNP snap test. Enlarged heat noted on radiograph.

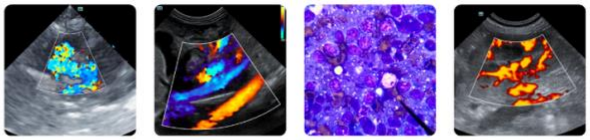
ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	5.3	190	0.67	1.02	0.65	50.9	85.9
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	1.2	1.1	1.2		--	0.86	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							

Cardiac Presentation

The left atrium and auricle are normal in size. No evidence of spontaneous echocontrast or intracardiac thrombi on the provided images. There is systolic anterior motion of the anterior mitral valve leaflet and chordal apparatus, resulting in turbulent LVOT flow and eccentric mitral valve insufficiency. A continuous wave doppler profile of the LV outflow tract is not obtained for assessment of the severity of obstruction. There is mild to moderate symmetric concentric hypertrophy of the left ventricle. The right atrium is normal. The tricuspid valve is normal. There is mild to moderate central tricuspid valve insufficiency. The right ventricle appears to have preserved systolic function subjectively. The aortic and pulmonary valves are normal without evidence of insufficiency. Aortic and pulmonary outflow velocities are within normal limits. The aorta and PA are normal along with the associated PA branches. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses.

ULTRASONOGRAPHIC FINDINGS



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- HOCM phenotype – R/O intrinsic cardiomyopathy, less likely mitral valve dysplasia

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram revealed thickening of the left ventricular walls. This is consistent with a hypertrophic cardiomyopathy phenotype, or HCM. In HCM, there is hypertrophy (thickening) of the muscle fibers that make up the walls of the heart. Many cases are a primary heart muscle disease (genetic in origin), however in some cases this can be a secondary process that may improve with treatment of the underlying condition (i.e. high blood pressure or hyperthyroidism among others). A blood pressure and total T4 are recommended in cats >6yr to rule these out as underlying causes (if not already performed). Regardless of the cause, the thickening causes diastolic dysfunction, and progressive left atrial enlargement. There was also evidence of a dynamic left ventricular outflow tract obstruction due to systolic anterior motion of the mitral valve. While beta blockers have been used to improve the LVOT obstruction, studies have not demonstrated a benefit in survival times or other outcomes with beta blockers (even in cats with a severe obstruction on echo). Some cats who have symptoms of exercise intolerance (these cats typically have severe LVOTO) may have an improvement in clinical signs with atenolol therapy. Eventually, cats with left atrial enlargement are at risk of developing congestive heart failure (pulmonary edema, pleural effusion, or both), blood clot formation and arrhythmias/sudden death. Some cats with mild HCM may live a normal lifespan with no further progression of disease. However, it is also possible that his HCM will progress over time and further therapy may be required for congestive heart failure, blood clots, or arrhythmias.

Fortunately, this patient does not have evidence of significant left atrial enlargement, so the risk of adverse cardiovascular outcomes is considered low at this time. No cardiac medications are recommended at this stage of the disease, but a recheck echocardiogram is recommended in 9-12 months to determine if there is any progression.

Given the age of the patient, mitral valve dysplasia resulting in a dynamic LVOT obstruction and secondary hypertrophy is a consideration but it's less likely based on the images provided. Similarly beta blocker therapy is not likely to change the long-term outcome.

Monitoring

It is very important to catch any clinical signs concerning for emerging CHF as early as possible. The client should be closely monitoring and ideally tracking the sleeping respiratory rate. The sleeping RR should be between 10-30 breaths per minute or less (ideally in the teens or low 20s). **If the resting RR is trending upward**, consistently>35/min while resting/sleeping, the patient should be seen urgent for evaluation to determine if CHF is developing. If your pet is ever unable to use one or more of their limbs, seek emergency veterinary attention. *RECHECK ASAP for thoracic radiographs if there is increase in RR to detect early CHF and avoid ER presentation**

Anesthesia

Dynamic left ventricular outflow tract obstruction can be worsened by positive

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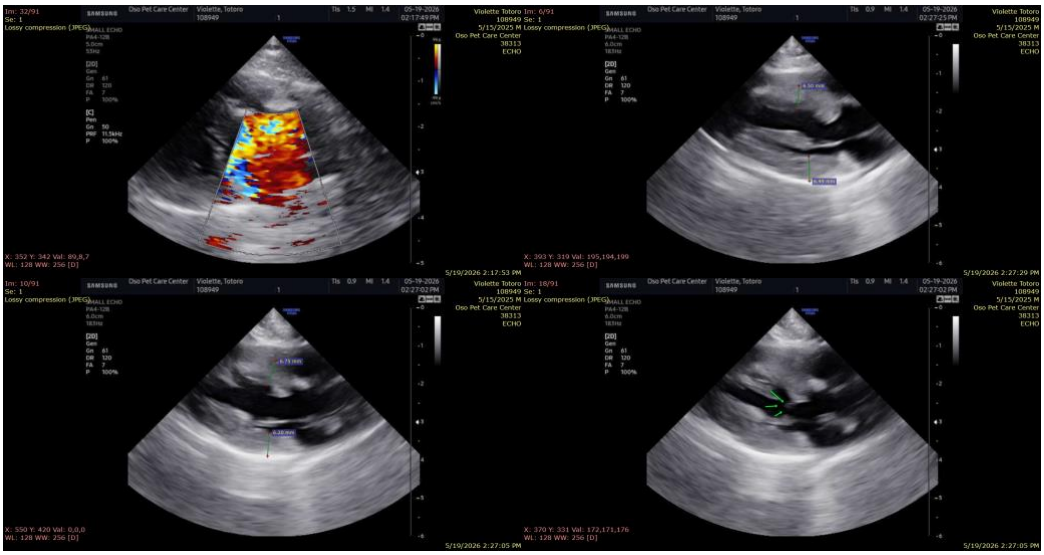
inotropes/chronotropes, and these should be limited in use when possible (this includes ketamine, atropine/glycopyrrolate, dobutamine, and others). Systemic hypotension can also exacerbate outflow obstruction, and careful monitoring and appropriate management is advised during anesthetic event. Judicious IV fluid administration is advised (as needed to avoid hypotension without volume overload). For periods of hypotension not responsive to judicious fluid administration, dobutamine may be preferred over other pressors which would increase systemic vascular resistance.



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.

James Wood, DVM, DACVIM (Cardiology)

info@SonoPath.com