



PATIENT

Willow Thorstenson

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed Female

AGE

2 ½ years

WEIGHT

8.8 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

Eastgate VC

REFERRING VET

Dr. Moses

INVOICE

95432

DATE

1/20/22

PRESENTING CLINICAL SIGNS

Initial presentation 1/6/22 for sneezing and maybe occasional cough. Exam fairly unremarkable
Abnormal PE/Chem/CBC/UA Results: - The cardiac silhouette is moderately enlarged, being tall and wide. - The pulmonary blood vessels are enlarged and extend to the periphery before tapered down. - Both lungs are well expanded and have moderate increase in soft tissue opacification characterized by small rings and parallel lines. - The cranial mediastinum and skeletal structures are radiographically normal. - In the visible abdomen, no abnormality is detected. Assessment: SUMMARY: 1. Moderate, generalized cardiomegaly 2. Moderate diffuse pulmonary blood vessels congestion 3. Moderate diffuse bronchial pattern The clinical signs of the patient are attributed the constellation of the radiographic findings. The cardiac changes Are prioritized to be secondary to an underlying cardiomyopathy (e.g. HCM) although an underlying cardiomegaly secondary to sedation and bradycardia is also possible. The pulmonary blood vessels enlargement is concerning for projection secondary to an underlying cardiac disease. The diffuse bronchial pattern is a nonspecific finding and has broad differential diagnosis. Given the cardiac changes, an underlying left-sided congestive heart failure with secondary bronchial pattern is possible although an underlying concurrent chronic lower airway disease (e.g. infectious versus noninfectious bronchitis or feline asthma) or allergic reaction are possible. An echocardiography to better evaluate the cardiac changes is recommended. Repeat thoracic radiographs after 24 - 48 hours of empirical treatment To evaluate for resolution of the pulmonary changes is also recommended. Specialist: Dr. Assaf Lerer, DACVR

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. Trivial **mitral** valve insufficiency was noted. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Trivial **tricuspid** insufficiency was noted and measured 1.0 m/sec. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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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		156	0.42	1.45	0.45	50	90
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.0	1.22		1.04		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							

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ULTRASONOGRAPHIC FINDINGS

Normal echocardiogram.
 Trivial mitral and tricuspid insufficiency.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cough is non-cardiogenic. No cardiac medications are recommended. Heartworm should be considered, yet there was no evidence of heartworm noted on the echocardiogram. Primary respiratory protocol is recommended.

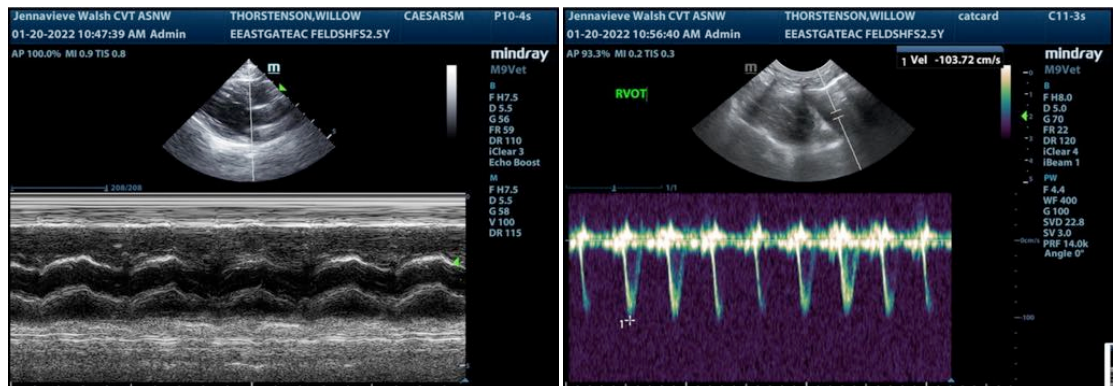
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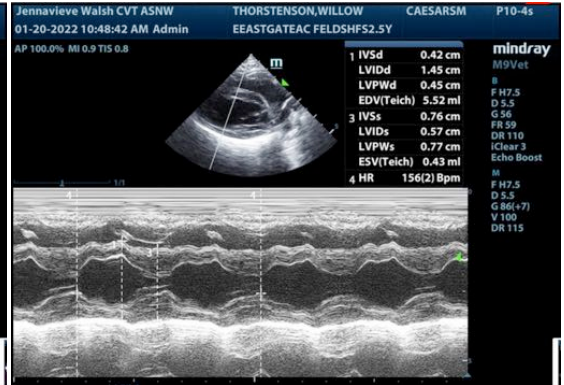
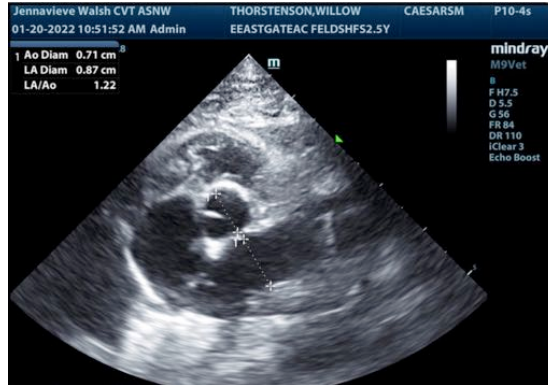




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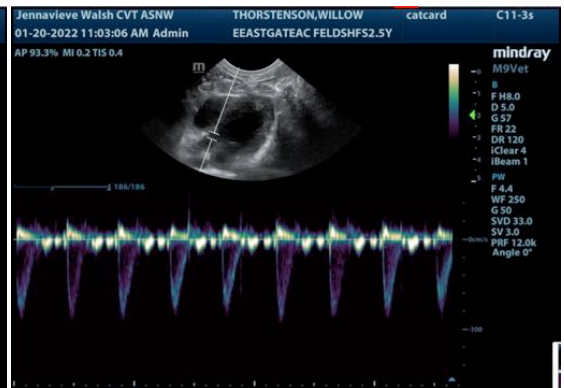
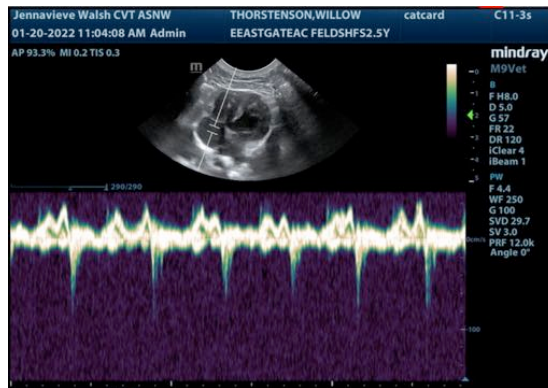
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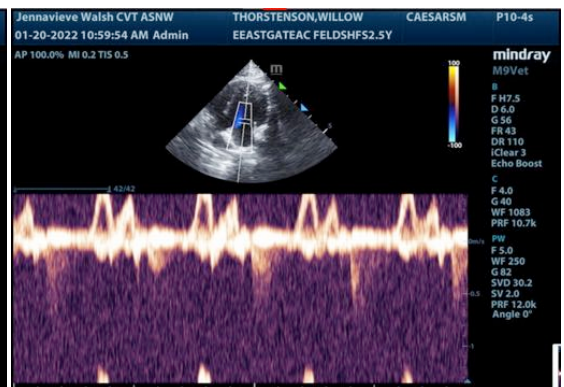
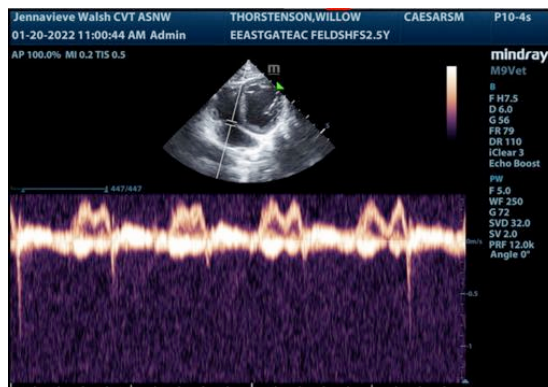
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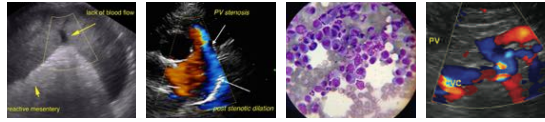
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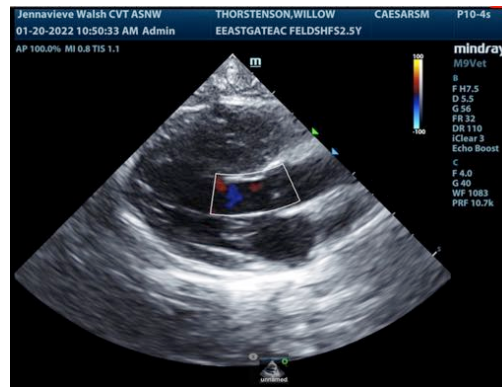
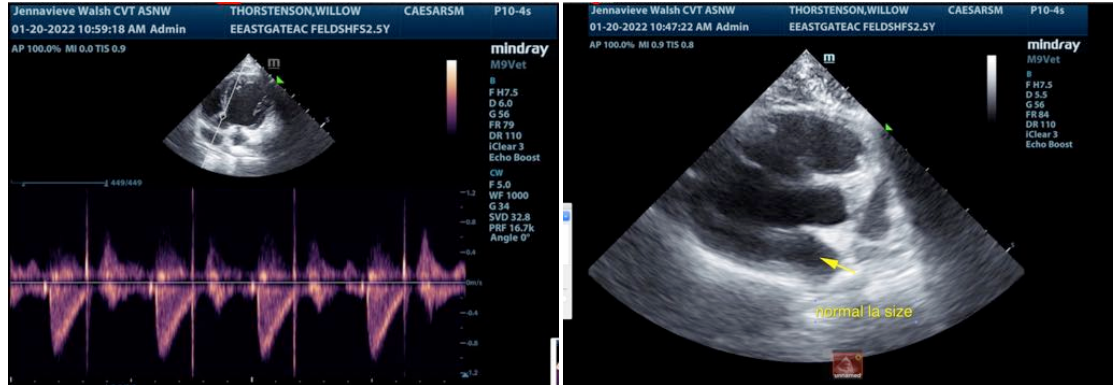
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
 Eric.Lindquist@SonoPath.com