



PATIENT

PRESENTING CLINICAL SIGNS

Rainbow Puppy Barna

History: 8/20/22: Patient presented for the first time for lethargy. Owner has the whole litter - this puppy eats and drinks but tires out and gets weak unlike all the other puppies in the litter. Upon exam a Grade III-IV heart murmur was noted. -Radiographs were taken (included for Global view) - Echocardiogram **Our ECG clips were not working at the time of the Echocardiogram so I performed a 4 lead ECG on Idexx's cardiopet and took pictures of the patient's ECG - included in attachments ** Abnormal PE/Chem/CBC/UA Results: -Grade III-IV heart murmur -No lab work performed at this time

SPECIES

Canine

BREED

German Shepherd

SEX

Female

AGE

5 weeks

WEIGHT

5.4 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The **left atrial** size is normal and contained at this time. **Mitral** valve insufficiency was noted. **Ventricular** septal defect was also noted in this patient. Combination of subaortic stenosis and ventricular septal defect has increased significant ventricular hypertrophy. Myocardial remodeling and thickened, irregular left ventricular papillary muscles are also noted. . 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** revealed thickened, irregular aortic valve with left ventricular septal impingement and systolic anterior motion of the mitral valve. was excessive and measured 0.6 cm/sec. The LVOT revealed thickened. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. 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.

IMAGING PERFORMED BY

Dr. Bucha

HOSPITAL NAME

Harvey Lake VC

REFERRING VET

Dr. Bucha

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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		NM		1.9		50	
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	1.4	1.8 max	0.6	1.6	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

Rainbow Puppy Barna

Severe subaortic stenosis with severe concentric left ventricular hypertrophy and secondary myocardial remodeling and dynamic and fixed LVOT.

SPECIES

Secondary mitral insufficiency.

Canine

Severe congenital defects.

BREED

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

German Shepherd

The prognosis is poor in this patient. Atenolol therapy can be considered as a palliative measure; however, the patient should be monitored for exercise intolerance. The patient is at high risk for sudden death.

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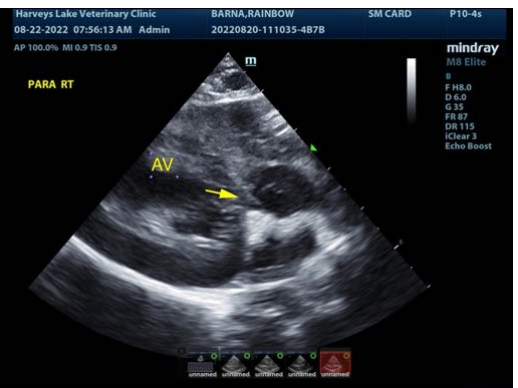
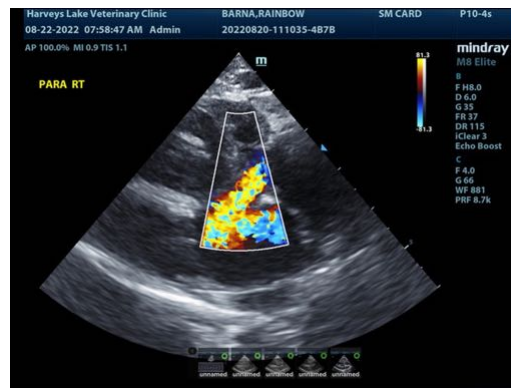
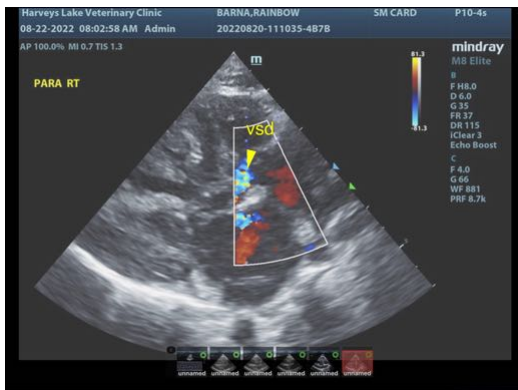
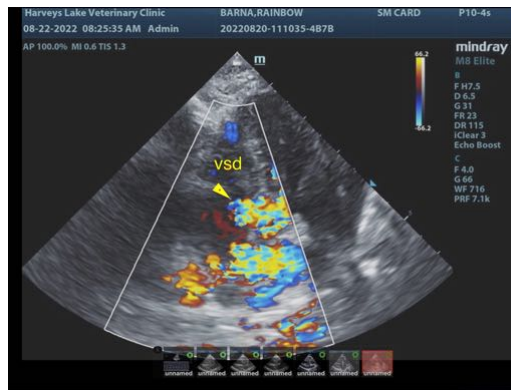
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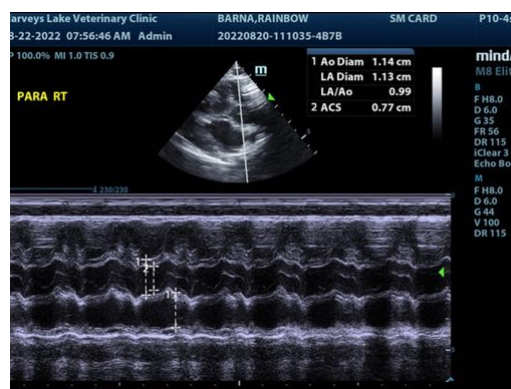
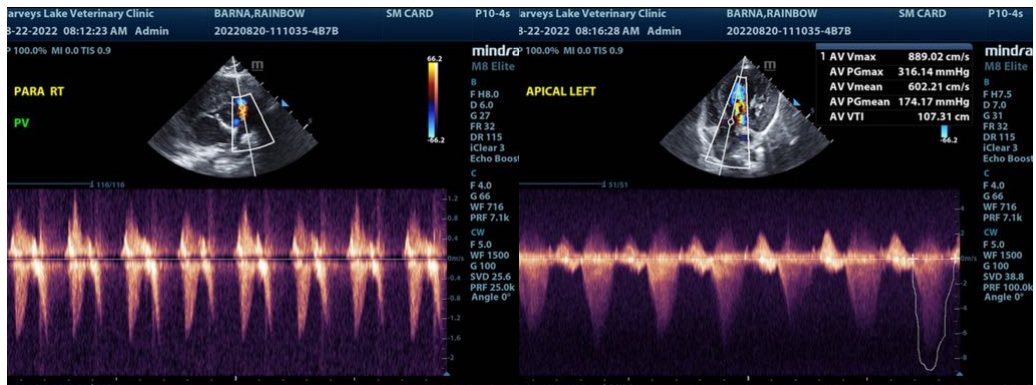
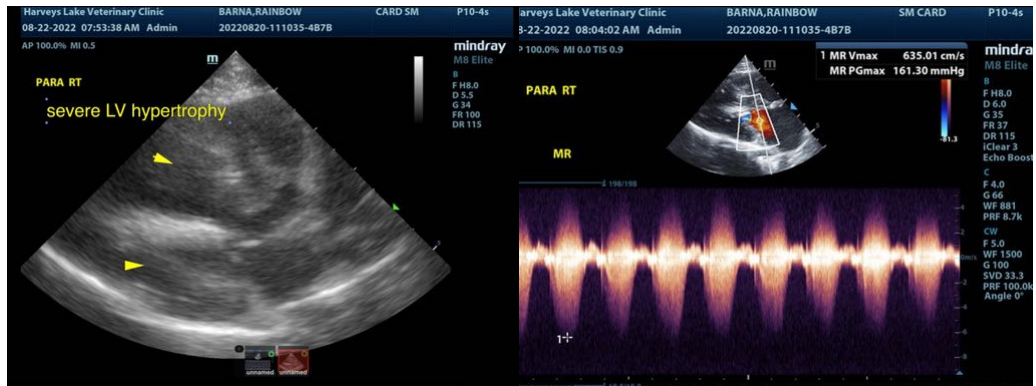
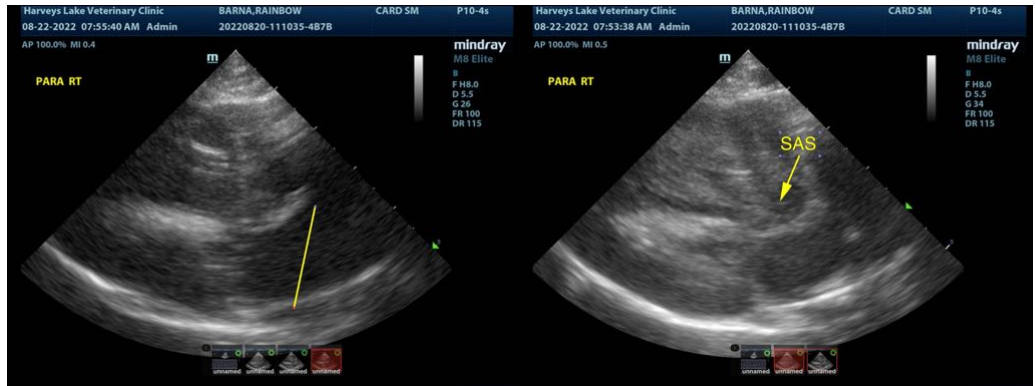
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

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.

BREED

German Shepherd

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

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