IMAGING PERFORMED BY

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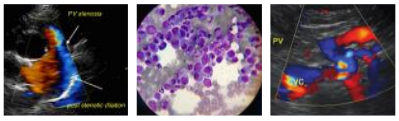

SonoPath
Clinical Sonography & Telecytology
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PATIENT
Delilah Marks

SPECIES
Canine

BREED
Boxer

SEX
Female Spayed

AGE
7 years

WEIGHT
67lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Andi Parkinson, RDMS

HOSPITAL NAME
Perry Hall Animal Hospital

REFERRING VET
Dr. Hatzigiannakis

INVOICE
22320

DATE
12/7/21

PRESENTING CLINICAL SIGNS

History: Screening echo. Normal physical exam, no murmur auscultated.
Pertinent abnormal PE/Chem/CBC/UA Results (11/22/21): H Amyl 1,765 (337-1469 U/L), H Lipa 1,216 (0-250). on same sample spec cPL 1,324 (0 -200 ug/L). Also, mild polycythemia noted.
-Current medications: only preventatives: Heartgard and Nextgard.
-Sedation used: Not required to complete full diagnostic ultrasound.
-STAT: Not requested.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no obvious prolapse into the left atrial lumen. No mitral regurgitation seen. Normal left atrial dimension. Normal LV diameter with normal myocardial function. The tricuspid valve appears subjectively normal, with no insufficiency seen. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal outflow velocities. No AI or PI. No evidence of SAS or other congenital stenosis. No obvious cardiac shunts. Normal pulmonic and aortic outflow velocities; laminar flow. No pericardial or pleural effusion noted. No cardiac tumors identified.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NA	NA	NM	1.2	46	78	NM

CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	170	1.2	1.2	30.4	2.2	3.2	1.7
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
**Note: All measurements based upon multi-modal images and methods. An average value is reported.*				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

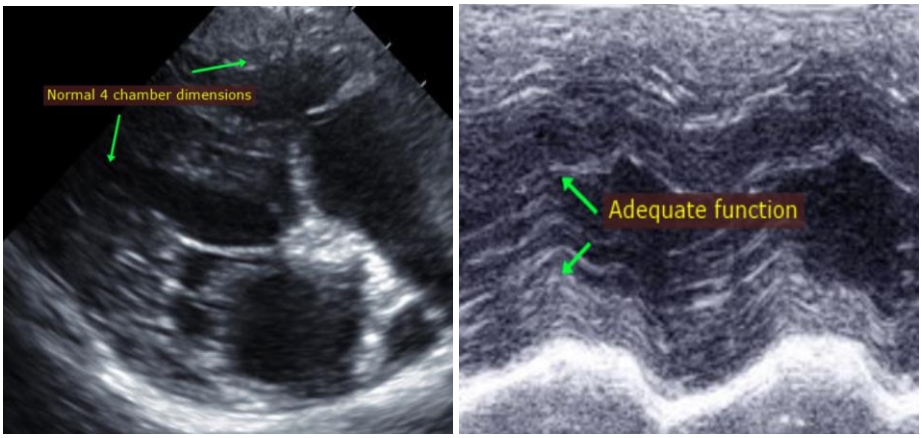
Overtly normal cardiac structure and function. No evidence of right heart enlargement, LV dysfunction or chamber dilation at this time.

Given the signalment, there is still risk for development of ARVC or DCM as this dog ages, and annual screening through echocardiography and holter monitor is recommended. A genetic test is available through NC State and may also be reasonable to screen for the risk of development of ARCVC. Finally, given the recent findings on possible causation of grain free diets and DCM in dogs predisposed to the disease, I would not advise a grain free diet in this patient due to potential negative long-term effects.

No medications are indicated; however, omega fatty acid supplementation may be of some long-term benefit in dogs predisposed to arrhythmias. Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

Recommend continued annual monitoring through echocardiography, holter/ECG, and/or NT-ProBNP screening, sooner if any development of clinical signs.

IMAGES



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
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