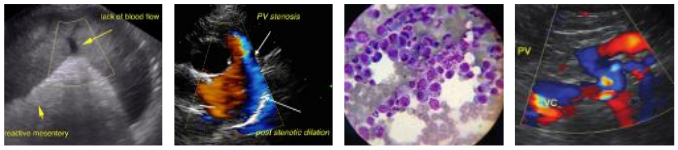
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Momo Quinones

SPECIES
Canine

BREED
Mix

SEX
Male Neutered

AGE
12 years

WEIGHT
20.4lbs

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

IMAGING PERFORMED BY
G. Ferrer, DVM

HOSPITAL NAME
Paseos Veterinary Center

REFERRING VET
Dr. Cruz

INVOICE
28664

DATE
1/31/23

PRESENTING CLINICAL SIGNS

History: Presented as a referral for an echocardiogram before heartworm treatment. Has a history of heartworm disease and wants to make sure HW treatment can be done safely.

ECHOCARDIOGRAM FINDINGS

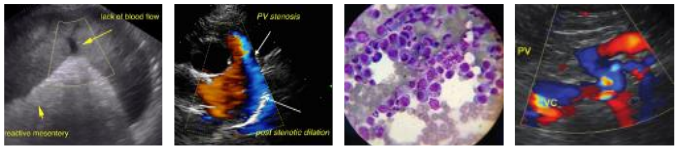
2D, m-mode, color flow and doppler imaging is available. Mild mitral valve thickening with no obvious prolapse into the left atrial lumen. No mitral regurgitation; normal left atrial dimension. Normal LV diameter with adequate myocardial function. Normal LV wall thickness. The tricuspid valve appears normal in form and function with no TR. The right atrium and ventricle appear normal. No overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal LVOT and RVOT velocity. No aortic or pulmonic insufficiency. Mild MPA and PA branches dilation; no obvious adult worms seen. No pericardial or pleural effusion noted. No obvious cardiac tumors seen.

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	1.3	57	89	0.31
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	NM	0.76	0.73	9.3	1.6	2.5	1.1
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac structure and function documented in this study with no obvious significant PAH. There is no significant valvular regurgitation or chamber enlargement noted. The MPA and branches are mildly dilated; however, there are no obvious adult worms seen. It is important to note that ultrasound is not 100% sensitive for finding adult worms however, although suspicion is low in a dog without associated clinical signs (cough, exertional syncope). These findings would suggest the radiographs are a normal variant, which should be used as a baseline for future comparison.



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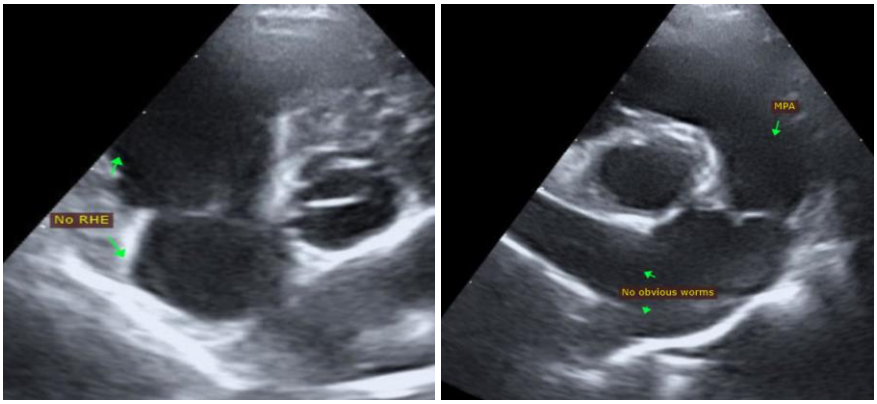
There is no obvious contraindication for Immiticide therapy with a presumably low adult worm burden. Confirming the diagnosis followed by the split immiticide protocol is recommended as dictated by the American Heartworm Society (www.heartwormsociety.org), including 30 days of doxycycline and monthly Ivermectin. Strict cage rest required at least until 4-6 weeks following the final treatment. Given possible systemic illness, consider further workup and therapy for current clinical signs before proceeding with aggressive HW therapy. No obvious association between an occult HW positive status and current GI upset is suspected.

If treatment is successful, good chance for no long-term issues associated with HW disease (cough, pulmonary hypertension, pulmonary damage, etc.) given a normal cardiac structure and lack of clinical signs.

Follow up echocardiography is only necessary if clinical signs of cardiac disease develop (murmur, cough, fainting, etc.).

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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com