



PATIENT

Cash Stone

SPECIES

Canine

BREED

Pitbull Mix

SEX

Male Neutered

AGE

1.6 years

WEIGHT

76lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Sobon

INVOICE

26493

DATE

9/21/22

PRESENTING CLINICAL SIGNS

History: Cash is a rescue dog that presented for a wellness exam on 9/17/2022. 4DX came back positive. 4DX 1 year ago was neg. Base line echo to determine if there is adult heartworms in the heart. Sedated with Gabapentin, Trazadone and Dexdomitor due to fractious nature.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. Trace/mild central mitral regurgitation with mild left atrial dilation. Increased LV diameter with decreased myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. 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 pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. The distal pulmonary artery and branches are not well visualized; however, no adult worms are seen within the body of the vessel. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	4.8	NM	1.2	1.4	19	35	1.2
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	1.1	1.1	34.5	3.6	5.2	4.2
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, it is nearly impossible to accurately evaluate a patient's echo parameters using Dexdomitor. In dogs specifically, the drug was shown to increase both LV diameters, lower FS and lower blood flow through the great vessels, all which are seen in this study. Additionally, the drug can lead to valve regurgitation that is not otherwise present, which may explain the MR. What is seen in this study is suspected to all be secondary to Dexdomitor rather than organic disease, however this cannot be definitively determined. The MPA and branches appear normal, and there are no obvious adult worms seen. It is very important to understand that this is not

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considered a thorough evaluation of the distal branches and adult worms may have been easily missed. Even with the best visualization, ultrasound is not 100% sensitive for finding adult worms, although suspicion is relatively low in a dog without clinical signs.

SPECIES

Canine

There is no obvious contraindication for Immiticide therapy with a presumably low adult worm burden based upon what is seen here. 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.

BREED

Pitbull Mix

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.

SEX

Male Neutered

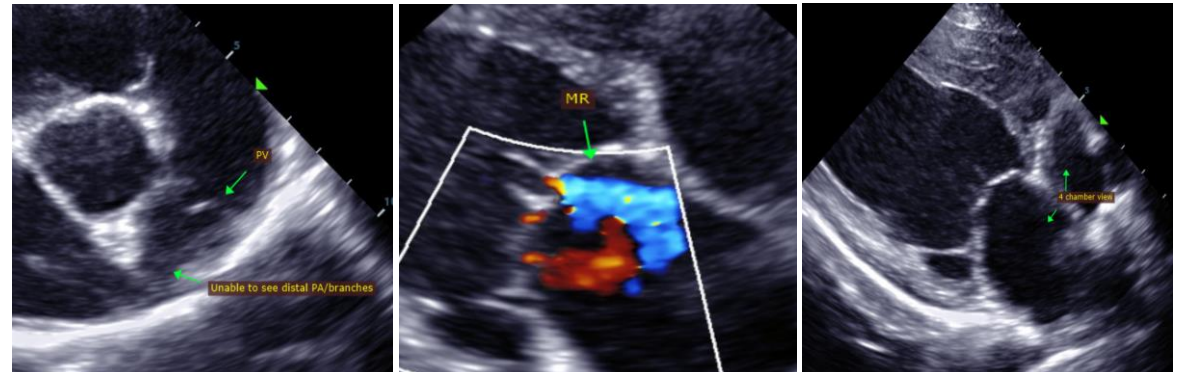
Follow up echocardiography is only necessary if clinical signs of cardiac disease develop (murmur, cough, fainting, etc.).

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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. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

HOSPITAL NAME

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