



PATIENT

KaPua Glassco

SPECIES

Canine

BREED

Australian Shepherd

SEX

Female Spayed

AGE

9 years

WEIGHT

50lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Sierra Animal
Wellness Center

REFERRING VET

Dr. Roberts

INVOICE

22481

DATE

2/9/22

PRESENTING CLINICAL SIGNS

History: First episode of possible syncope 12/21. Was boarding with a local dog sitter at the time. episode described as "really wobbly". All blood work normal and heart auscultated normally, no murmur or arrhythmia. Second episode 2/1/22. Legs collapsed, fell down, disoriented, couldn't get up for several minutes. No tonic clonic movements, no screaming or foaming. No urination or defecation. Conscious and whimpering. Again, heart normal, good mm color, normal CRT. Femoral pulses strong, slightly slow, synchronous

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 75bpm (range 50-100bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.

ECG diagnosis: Sinus bradycardia with presumably respiratory variation.

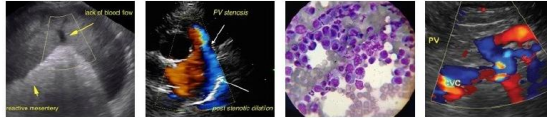
ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with mild tricuspid regurgitation. Normal velocity. 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 and trival pulmonic insufficiency. 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	NA	NA	NM	1.4			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	NM	1.6	0.9	22.7	2.6		
*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)

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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac structure and function. No significant valve leaks are visualized, and the chamber dimensions are appropriate. The systolic function is adequate for this breed and no additional issues are identified.

The ECG does show sinus bradycardia with a relatively low resting heart rate. There is some irregularity to the rate and rhythm which is presumably due to respiratory phase; however, correlation is advised. No obvious premature beats are seen, and this may simply represent a respiratory sinus arrhythmia. If the pattern does not follow respiratory phase however (i.e., increased HR with inspiration, decrease with expiration), sinus node dysfunction would be the other possibility. An atropine challenge should be utilized to determine health of conduction system and confirm suspected high vagal tone (0.04mg/kg IV or IM; monitor for significant HR increase that is sustained for 10+ minutes). If abnormal, referral to a local Cardiologist is highly recommended for further evaluation, holter monitor, etc.

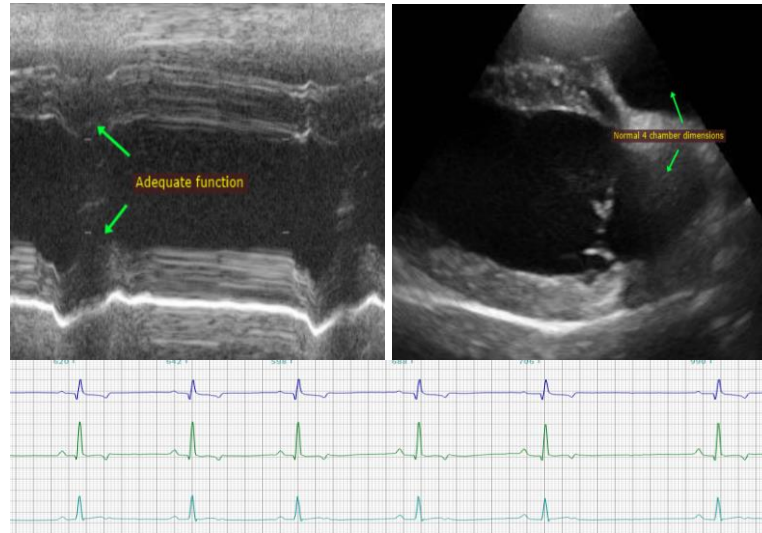
Pending a normal atropine challenge, the bradycardia is considered secondary rather than a primary issue regarding the episodes. Neurologic disease can lead to high vagal tone and should be considered in this instance. Additionally, a thyroid level can be submitted to ensure the results are in a normal range.

No cardiac medications are clearly indicated. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

Pending a normal atropine response, there is no cardiac contraindication for general anesthesia. If the atropine challenge is abnormal, anesthesia carries a high risk and referral is recommended.

Recheck echocardiogram should clinically signs or a heart murmur be noted in the future.

IMAGES





Portable Animal Western Sonography, Inc.

IMAGING PERFORMED BY

pawsonography@gmail.com  530-786-8340

PATIENT

KaPua Glassco

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.

SPECIES

Canine

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.

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Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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