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Clinical Sonography & Telecytology
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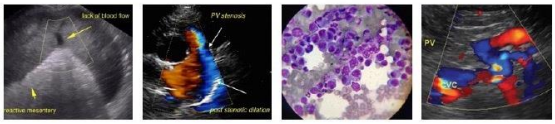

THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT
Jindy Van Beek

SPECIES
Canine

BREED
Australian Shepherd

SEX
Female Spayed

AGE
1.5 years

WEIGHT
47lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Crystal Hill, RVT

HOSPITAL NAME
Oxford County Vet Clinic

REFERRING VET
Dr. Andratis

INVOICE
22497

DATE
2/10/22

PRESENTING CLINICAL SIGNS

History: Grade 3-4/6 heart murmur. Prior history of "seizure or fainting" type episodes.
-Current medications: Phenobarb and Zonisamide.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 20mm/mV. The average heart rate is 120bpm (range 100-136bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Trivial central mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trivial tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and mildly elevated aortic outflow velocities with laminar flow. No obvious aortic or 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	1.2	1.3	33	62	0.3
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	140	2.1	1.3	21.3	2.4	3.6	2.4
*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

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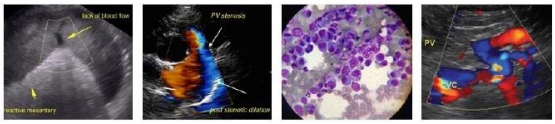

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary cause of the murmur is increased flow velocity through the LVOT/aortic root. No obvious subaortic ridge or valvular abnormalities are visualized, and in the absence of structural abnormalities this is considered a benign flow murmur. Consider screening for fluid status abnormalities (dehydration, anemia, etc) through routine lab work as these abnormalities would make this finding more prevalent. Trivial MR and TR are likely physiologic in origin; however, follow up is advised to screen for progression. No significant valvular insufficiencies were noted and no structural issues identified.

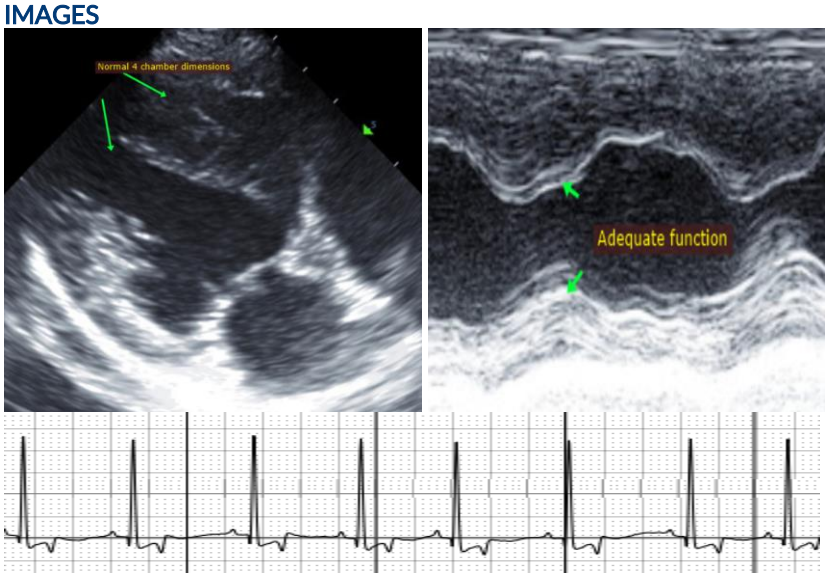
In a dog without significant cardiac enlargement, no medications are clearly indicated.

No obvious structural cause for the episodes is appreciated here, and the ECG is unremarkable with a normal sinus rhythm. The first distinction is determining syncope versus seizure through further historical information is possible. If syncope is more likely, consider ancillary causes, such as intermittent arrythmias via a holter monitor, systemic issues like an adrenal tumor, etc.

No cardiac contraindication for general anesthesia prior to chamber enlargement.

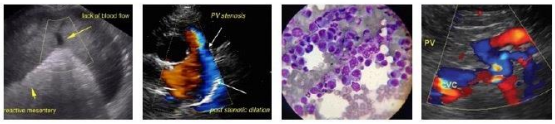
Recommend conservative monitoring with a recheck echocardiogram in 1 year to screen for any progressive issues.

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.



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