



PATIENT

Wesson Balzac

SPECIES

Canine

BREED

American Pitbull
Terrier

SEX

Male Neutered

AGE

11 years

WEIGHT

64lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Ferrer, DVM

HOSPITAL NAME

Pulse: Pet Ultrasound
Services

REFERRING VET

Dr. de Jesus

INVOICE

45736

DATE

11/13/25

PRESENTING CLINICAL SIGNS

History: Presented for anorexia, vomiting and an arrhythmia. 3 days history of slowing down and not eating much. Possible abdominal mass and arrhythmia.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 5mm/mV. The underlying rhythm is sinus in origin with no two sequential sinus beats observed. The majority of the tracing is ventricular tachycardia with R:T phenomenon. The salvos are between 3 and 7 beats in duration with an average heart rate of >280bpm.

ECG diagnosis: **Malignant ventricular tachycardia.**

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with slight left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no 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. 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	31	66	0.4
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	300	1.6	0.6	29.0	2.8	3.4	2.3
*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 dimensions and function are identified. The right heart appears normal and systolic function is intact. The LA is slightly enlarged, which is likely a normal variant and/or secondary to the arrhythmias. No additional issues are identified.



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The ECG; however, is highly concerning with malignant ventricular arrhythmias. This includes brief runs of malignant ventricular tachycardia with R:T phenomenon. VPCs are ectopic beats generated from abnormal conductive or fibrotic tissue in the ventricles of the heart muscle, and even frequent single VPCs will often cause no clinical signs in dogs. When sustained however, ventricular tachycardia (VT) can lead to symptoms such as lethargy and collapse.

VPCs are a very non-specific finding. They can be primary in origin such as ARVC, be secondary to significant cardiac disease (not present in this study) or be extra-cardiac in origin, i.e., due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. In a senior large breed dog primary arrhythmic disease (ARVC) is possible, although other possibilities should be ruled out. This includes systemic or neurologic disease. **An abdominal ultrasound, full systemic lab work, baseline chest radiographs, etc. are all recommended.**

Immediate treatment is warranted with hospitalization for Lidocaine therapy overnight. Oral Sotalol should be started ASAP with weaning of Lidocaine once stabilized. Once stable, an extended 6 lead ECG and/or holter monitor is a reasonable next step to allow monitoring of the rhythm throughout 24 hours of a normal day to ensure good rhythm control.

Unfortunately, there is always an elevated risk for collapse and sudden death in any arrhythmic patient, and even on medications this risk unfortunately still persists. ARVC carries a HIGHLY variable prognosis, with some dogs able to remain asymptomatic for extended periods of time, and others developing exercise intolerance, syncopal episode, and refractory arrhythmias/sudden death imminently.

Fish oil supplementation is recommended for dogs with arrhythmias (1000mg of omega 3 and 6 once to twice daily as tolerated).

Monitor at home for collapse, exercise intolerance, and/or lethargy.

Anesthesia is not recommended until good arrhythmic control is achieved. Lifelong mild to moderate activity restriction is advised.

PLAN

Immediate institution of Sotalol; administer a loading dose of 120mg PO followed by 60mg PO q12h going forward (available in 120mg tablets). Recommend overnight hospitalization for lidocaine CRI/ECG monitoring (sotalol should still be instituted ASAP). Full systemic evaluation is recommended to screen for underlying causes for VT, such as splenic neoplasia.

A recheck ECG/holter is recommended in 1-2 weeks to assess response to therapy, then every 6-12 months lifelong.

A recheck echocardiogram and ECG are recommended in 6 months to screen for development of systolic dysfunction/refractor arrhythmias.



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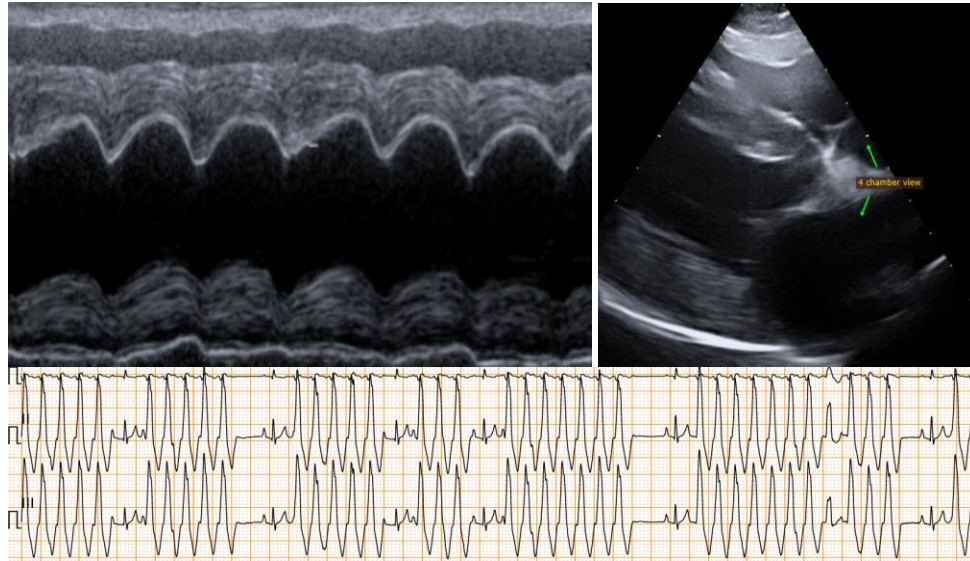
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IMAGES



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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