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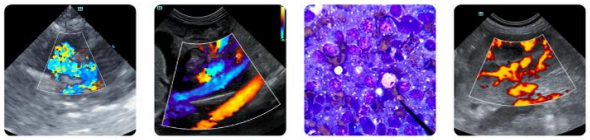


Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

PATIENT
Jax Lopez

SPECIES
Canine

BREED
Black Mouth Cur

SEX
Male Neutered

AGE
9 years

WEIGHT
58lbs

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

IMAGING PERFORMED BY
Karen Ebersole, DVM, DABVP

HOSPITAL NAME
Scanvet

REFERRING VET
Dr. Golden

INVOICE
46864

DATE
2/18/26

PRESENTING CLINICAL SIGNS

History: Preop ECG showed frequent VPCs. History of polydipsia and vomiting intermittently. Recent weight loss of 4 lbs. Assess prior to dental.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Normal cardiac silhouette. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS

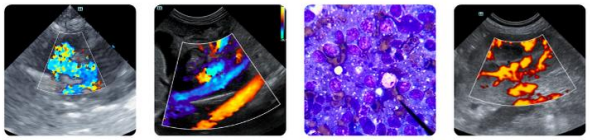
A six lead ECG is available at 25mm/s; 20mm/mV. The average heart rate is 90bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. VPCs are seen throughout; singles and couplets noted. One triplet appreciated. No sustained VT. No APCs, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with single, couplet and triplet VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild thickening of the mitral valve with no obvious prolapse into the left atrial lumen. No mitral regurgitation with 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. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. No obvious mass lesions present adjacent to the aorta or associated with the RA, right auricle, or AV groove. The pulmonic and aortic valves are normal in morphology and mobility. Mildly elevated aortic outflow velocities; laminar flow. Normal pulmonic outflow velocities; laminar flow. No pericardial or pleural effusion noted.

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	1.0	1.3	36	66	0.5
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	97	1.4	0.9	26.3	2.6	4.3	2.8
*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 **Note: All measurements based upon multi-modal images and methods. An average value is reported.*				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				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)



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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	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

Overtly normal cardiac structure and function. The dimensions and valve morphology are largely normal. No obvious cardiac tumors were identified; however, it should be noted that small epicardial or pericardial masses are easily missed without the presence of effusion.

The ECG did confirm the arrhythmia to be single, couplet and triplet ventricular premature contractions (VPCs). VPCs are 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 can lead to symptoms such as lethargy and collapse.

VPCs are a very non-specific finding. They can be primary (a rule out diagnosis), 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 this older dog, all differentials should be ruled out. An abdominal ultrasound to monitor for any underlying abnormalities, in addition to tick titers and cardiac troponin level can be considered. Additionally, a thoracic CT can be considered to screen for masses or abnormalities too small to find easily on echocardiogram. 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.

Based upon what is seen here, anti-arrhythmic therapy is warranted using Sotalol as below. Following institution of therapy, a holter monitor is the recommended next step, to allow monitoring of the rhythm throughout 24 hours of a normal day and assess response to medication. If declined, certainly this should be reconsidered if the patient has any syncope in the future.

Fish oil supplementation is recommended for dogs with arrhythmias (500-1000mg of omega 3 and 6 once to twice daily).

Monitor at home for collapse, exercise intolerance, and/or lethargy. Mild activity restriction is advised.

Anesthetic risk is considered moderately elevated. Avoid ketamine, telazol, Dexdomitor (or other alpha-2 agonists) and acepromazine. Recommend having lidocaine CRI available for use in the event of worsening ventricular arrhythmias under anesthesia (CRI 50—75mcg/kg/min).

PLAN

Consider full systemic workup. Consider thoracic CT. Institute Sotalol 1-2mg/kg PO q12h with reassessment of an ECG or ideally a holter monitor in 2-4 weeks.

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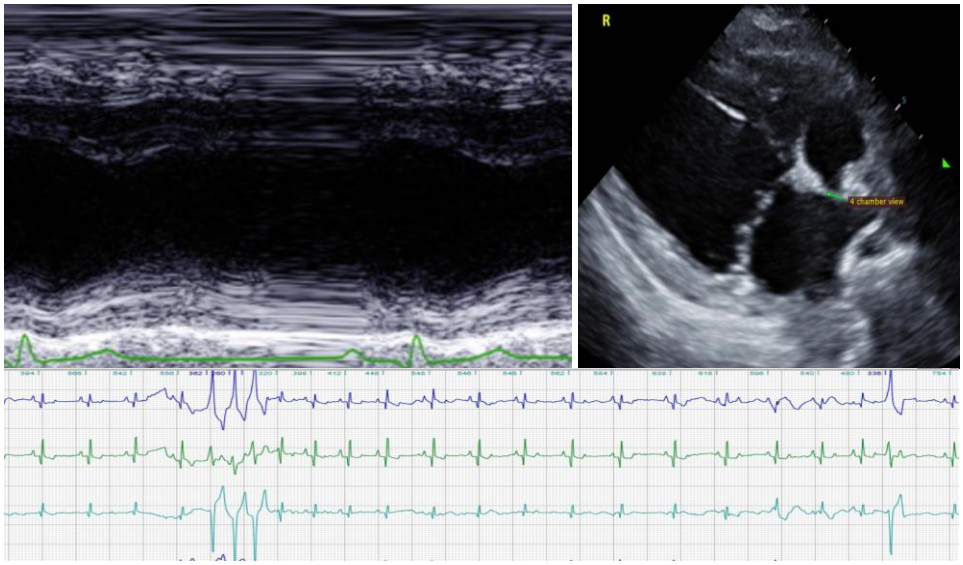
A recheck ECG is recommended in 3-4 months and an echocardiogram in 1 year, sooner if any clinical signs arise.

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