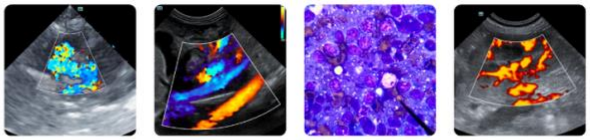


PATIENT

Jax O'Connell

SPECIES

Canine

BREED

Border Collie Mix

SEX

Neutered Male

AGE

13 Years 3 Months

WEIGHT

24.3 kg

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Dr. Greg Kuhlman

HOSPITAL NAME

Red River AEH & RC

REFERRING VET

Dr. Greg Kuhlman

INVOICE

37158

DATE

5/20/26

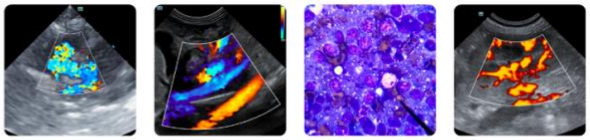
PRESENTING CLINICAL SIGNS

History: Jax has been diagnosed previously with degenerative chronic tricuspid and mitral valve disease, normal sinus rhythm with malignant ventricular arrhythmias, and ventricular premature complexes (VPCs). He had an echocardiogram sent to Sonopath 10/15/26. An EKG was submitted to Sonopath on 10/22/25. Jax also had a Sonopath Holter Monitor placed on 11/5/25. A recheck ECG was performed on 12/18/25 after starting Sotalol. The recheck today is for a recheck echocardiogram and EKG.

Abnormal PE/Chem/CBC/UA Results: 5/20/26 Doppler Blood pressure 148 mmHg. Grade IV/VI heart murmur auscultated. 12/18/25 Recheck ECG: Recheck ECG is presumably improved, with three single persistent VPCs seen. Abdominal ultrasound is largely unremarkable. 2 cystic calculi are present within the urinary bladder. 11/11/25 - Holter Monitor Results: Sinus rhythm with frequent VPCs is noted throughout the Holter. While the frequency is notable (over 6000 in 24 hours), the vast majority are single beats. That said, couplets and triplets are documented, consistent with VT. 10/8/25 - EKG and Echocardiogram: Chronic degenerative valve disease causing moderate mitral and trace tricuspid regurgitation. Ventricular premature contractions (VPCs) are noted on the ECG. Highly recommend a Holter monitor in this case.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	LA long axis	LAmaxN	Ao long axis	LA/AO (Heart Base; Swe, short axis)	LA/AO long axis	LVIDd	LVIDdN
NORMAL PARAMETER		<1.57		<1.6	<2.5		<1.7
PATIENT	5.23	1.96	1.6	1.55	3.27	4.43	1.62
CARDIAC PARAMETERS	**Body Weight (kg)**	**AV VMAX (m/s)**	**PV MAX (m/s)**	**MR VMAX (m/s)**	**TR VMAX (m/s)**	**FS (%)**	**LVIDsN**
NORMAL PARAMETER		0.7-1.7	0.7-1.6			22 - 49%	<0.9
PATIENT	24.3	0.69	0.52	4.7	--	41.7	0.74
CARDIAC PARAMETERS	**HR (bpm)**	**MV E (m/s)**	**MV A (m/s)**	**MV E/A (m/s)**	**EF (%)**	**IVSdN**	**LVFWdN**
NORMAL PARAMETER						<0.6	<0.6
PATIENT	115	1.6	1.1	1.45	--	0.47	0.46



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ECG Interpretation

A lead II ECG was reviewed. The underlying rhythm is a sinus arrhythmia with an average rate of 115 bpm. There are occasional single monomorphic left-sided VPCs. The average instantaneous rate of the VPCs is approximately 160 bpm. There are occasions of concealed retrograde conduction with either first-degree or second-degree AV block following the VPCs. No couplets, triplets, runs, or other complexity is identified. The P waves are occasionally bifid with a slightly prolonged duration consistent with left atrial enlargement. The remainder of the complex measurements are normal.

Cardiac Presentation

The mitral valve leaflets are mildly thickened with moderate eccentric and posteriorly directed mitral valve insufficiency. There is mild anterior leaflet prolapse. The left atrium is moderately dilated. The left ventricle is mildly dilated. Normal global left ventricular systolic function. There is normal right atrial size. The tricuspid valve is competent. There is no evidence of clinically relevant pulmonary hypertension based on the lack of changes to the right heart and proximal pulmonary arteries. The right ventricle subjectively appears normal in structure and function. The aortic and pulmonary valves have normal appearance and motion, and the corresponding outflow velocities are within normal limits. There is no evidence of pulmonary or aortic valve insufficiency. The aorta appears normal. The pulmonary artery and associated branches appear normal. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses.

ULTRASONOGRAPHIC FINDINGS

- Myxomatous mitral valve disease, ACVIM, stage B2
- Ventricular ectopy - apparently well controlled on Sotalol

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram showed evidence of myxomatous mitral valve disease. Based on this echocardiogram, there is significant enough chamber enlargement that the patient would benefit from starting pimobendan (if not already started) at 0.25-0.3mg/kg PO q12hr to slow the progression of this disease and delay the onset of CHF. CHF at this time is unlikely based on the reported history and examination, however baseline chest X-rays (within the last ~6 months- 1 year) are reasonable to fully rule out CHF and obtain a baseline of the patient's pulmonary parenchyma for comparison should clinical signs develop in the future. A blood pressure is also recommended. If the systolic BP >160mmHg while calm, an ACEi at 0.3-0.5 mg/kg PO q12 is recommended provided normal renal function. If so, recheck BP and renal panel with electrolytes in 1-2 weeks. Amlodipine should be considered if persistently hypertensive. If not hypertensive, the benefit of an ACEi or other RAAS blockade is not well established in this population of patients, and is typically reserved for once CHF develops, or if the left atrial and ventricular dimensions are severely increased. Monitoring of renal function is necessary when on these medications. Recheck in 6 months or sooner if concerns arise. At that time, a recheck echocardiogram to monitor for progression +/- thoracic radiographs (i.e. recommended if there is a new cough or increase in the RR).

Based on the ECGs provided today, the ventricular ectopy appears well controlled based on the lack of couplets, triplets, runs, or complexity, and the instantaneous rate of the ventricular ectopy is not overly fast. No adjustment to the sotalol therapy is recommended at this time. However, a Holter

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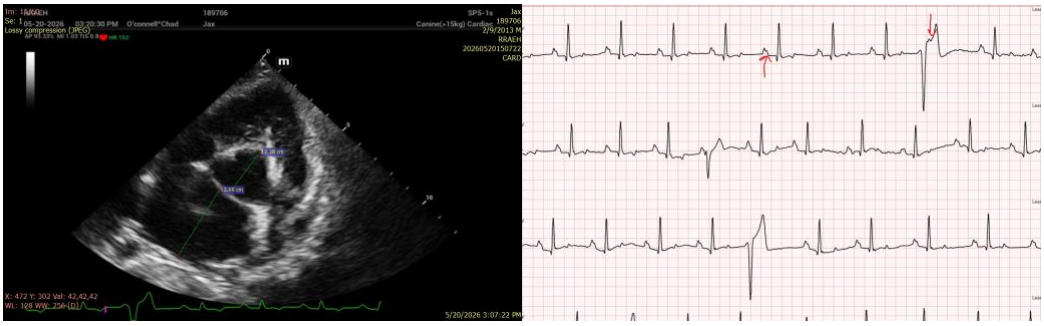
monitor is ideal every 6 months to assess the rhythm control and the current antiarrhythmics beyond just an ECG in hospital.



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. 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.

James Wood, DVM, DACVIM (Cardiology)

info@SonoPath.com