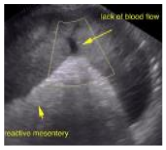
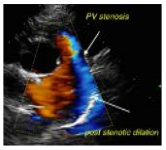
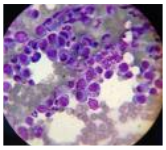
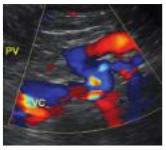
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Charlie Dolan Cox

SPECIES
Canine

BREED
Australian Shepherd

SEX
Male Neutered

AGE
10.11 years

WEIGHT
64.5lbs

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

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Littles/Kincade

INVOICE
29700

DATE
3/20/23

PRESENTING CLINICAL SIGNS
History: History of arrythmia- SVT at 300bpm and ventricular bigeminy. Assess prior to dental.

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, 5mm/mV. The underlying rhythm is sinus in origin with an average heart rate of 120bpm (range 65-150bpm). P for every QRS complex and vice versa. The P and QRS morphologies are positive. Frequent runs of SVT throughout with isolated APCs as well. Maximum instantaneous heart rate is 210bpm. VPCs are noted as well; singles only with brief bigeminy.
ECG diagnosis: Normal sinus rhythm with supraventricular and ventricular tachyarrhythmias.

ECHOCARDIOGRAM FINDINGS
2D, m-mode, color flow and doppler imaging is available. Mitral valve is mildly thickened with no prolapse into the left atrial lumen. No mitral regurgitation with mild left atrial enlargement. 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 aortic outflow velocity with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

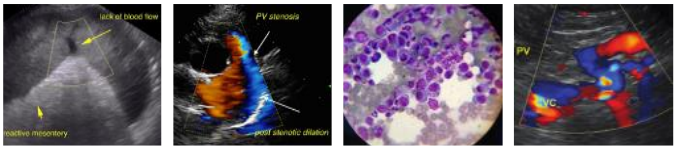
CARDIAC CHART

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	42	60	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	0.9	NM	29.3	3.1	4.4	3.0
*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

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Charlie Dolan Cox

SPECIES
Canine

BREED
Australian Shepherd

SEX
Male Neutered

AGE
10.11 years

WEIGHT
64.5lbs

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

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Littles/Kincade

INVOICE
29700

DATE
3/20/23

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. No evidence of pulmonary hypertension or significant valve leaks. No obvious cardiac tumors: however, it is important to note that small masses are easily missed particularly in the absence of effusion.

Of much more concern is the finding of multiform rapid arrhythmias. While a six-lead tracing would be ideal with complex arrythmias, there is clearly both SVT as well as frequent VPCs seen. SVT is an umbrella term indicating a narrow complex tachycardia arising from above the AV node with an atrial tachycardia is most likely.

Given a normal echocardiogram, there is no clear structural cause for the arrhythmia. The most likely scenario is that this is a primary arrhythmic issue; however, full systemic evaluation is recommended to ensure no exacerbating issues are brewing (such as neoplasia, GI inflammation, etc.). Fortunately SVT tends to be less malignant than a VT; however any arrhythmic patient is at risk for syncope and sudden death. Prognosis is guarded pending obtaining control of the arrhythmia.

Immediate initiation of sotalol is recommended in this case as below as a lifelong medication. Our goal is to decrease the frequency of bouts of tachycardia while maintaining a reasonable sinus rate. A recheck HR/ECG and/or holter is recommended in 1-2 weeks to assess response.

Omega fatty acid supplementation and mild salt restriction may be of some long term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

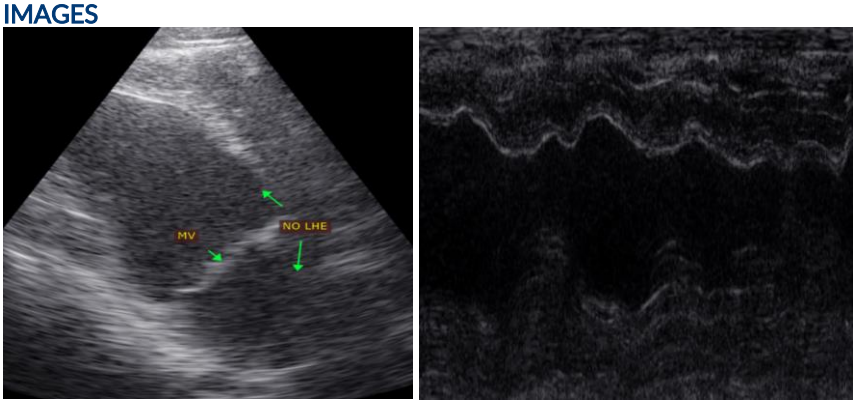
Elective anesthesia is not recommended at this time.

PLAN

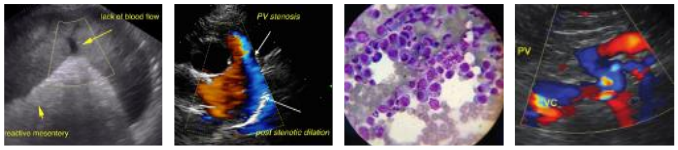
Institute sotalol 1-2mg/kg PO q12h. Recheck HR/ECG and/or holter in 1-2 weeks. Consider systemic screening as discussed.

Recheck echocardiogram and ECG and/or holter in 6 months, sooner if any issues arise in the interim.

IMAGES



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Charlie Dolan Cox

SPECIES
Canine

BREED
Australian Shepherd

SEX
Male Neutered

AGE
10.11 years

WEIGHT
64.5lbs

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

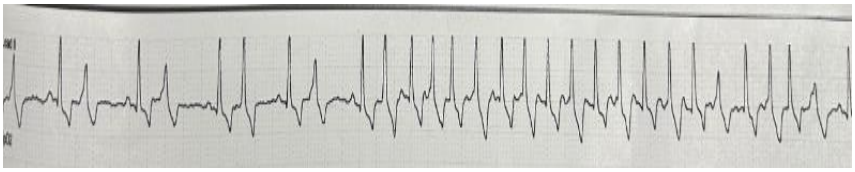
IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Littles/Kincade

INVOICE
29700

DATE
3/20/23



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