



PATIENT

Kasper Sapienza

PRESENTING CLINICAL SIGNS

History: Grade 4/6 murmur.
-Current medications: Doxycycline.

SPECIES

Canine

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 from an AliveCor monitor; 50mm/s, 20mm/mV. The average heart rate is 110bpm (range 78-136bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive with normal dimension. No ectopic beats, pauses or dysrhythmias observed.

BREED

Pitbull

ECG diagnosis: Normal sinus rhythm with respiratory variation.

SEX

Male Neutered

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no obvious prolapse into the left atrial lumen. No obvious mitral regurgitation. Normal left atrial dimension. Normal LV diameter with normal myocardial function. The LV wall appears normal. The tricuspid valve appears mildly elongated with mild insufficiency seen. Moderate right atrial dilation. Significant right ventricular hypertrophy and remodeling indicative of pressure overload. Right ventricular dilation. Pulmonic outflow velocities are elevated, suspected to be at the level of the valve. Abnormal tissue is seen in the supravalvular region; however, this may simply be an extension of the abnormal valve annulus. The pulmonic valve appears severely thickened, tethered and stenotic. There is significant post-stenotic dilation of the main pulmonary artery and branches. Mild pulmonic insufficiency. The aortic valve appears to have normal morphology and mobility. No obvious cardiac shunts are present. No pericardial or pleural effusion noted.

AGE

5 years

WEIGHT

64.8lbs

CARDIAC CHART

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

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	NM	NM	1.3	26	52	NM
CANINE CARDIAC PARAMETERS	HR (BP M)	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	130	2.0	5.5	29.4	2.6	4.3	3.1
*Normal chamber parameters expressed as a mean value				3	1.27	2.46	1.36
BODY WEIGHT DEPENDENT PARAMETERS							
*Note: All measurements based upon multi-modal images and methods. An average value is reported.							
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				5	1.40	2.74	1.60
				10	1.50	3.27	2.06
				15	1.83	3.71	2.43
				20	2.02	4.14	2.80
				25	2.18	4.48	3.10
				30	2.33	4.83	3.39
				35	2.48	5.17	3.69
				40	2.62	5.48	3.96
				50	2.88	6.07	4.46

IMAGING PERFORMED BY

Rebekah Jakum, CVT
ARDMS/RVT

HOSPITAL NAME

Pocono Peak VC

REFERRING VET

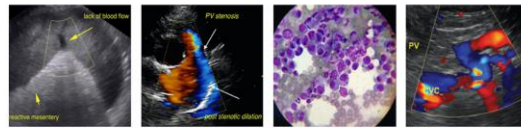
Dr. Coyle

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3/16/23



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is severe pulmonic stenosis. The obstruction appears to be at the level of the valve, although supra-ventricular component is not ruled out. The degree of obstruction is severe based upon the velocity/pressure gradient across the pulmonic valve and the secondary hypertrophy and remodeling of the right ventricle. There is significant RA dilation and mild TR with mild tricuspid valve thickening (likely dysplasia). The risk for CHF in the future is elevated and will likely limit lifespan. No other congenital abnormalities were visualized.

Referral for balloon valvuloplasty should be considered in this patient as the gold standard therapeutic option for this condition and may improve long term outcome and delay onset of clinical signs (including exertional syncope and right-sided congestive heart failure). If surgery is not elected, this patient's condition will likely limit lifespan, with many severe PS cases developing CHF by mid-life. Regardless, medical management with atenolol is recommended to decrease heart rate and lessen the obstruction as below. **It is worth noting that the patient's resting heart rate is low on the included ECG, which is otherwise normal. If this is a consistent finding, Atenolol may not be well tolerated. Reassessing a baseline heart rate is recommended.**

Monitor for development of associated clinical signs (collapse, abdominal distention, cough, labored breathing). Mild exercise restriction is advised.

Anesthetic risk is mild to moderate at this time. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary. Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 if possible. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary.

PLAN

Reevaluate baseline heart rate. If >130bpm with stress, institute atenolol to effect: 25mg tabs, ¼ tab PO BID to start (up-titrate to desired effect). Goal is to suppress heart rate <120-140bpm even with stress/activity. Baseline chest radiographs and ECG are recommended. Referral for balloon valvuloplasty ASAP if desired.

If surgery is declined, recommend recheck echocardiogram in 6-12 months to assess for progression, response to medication.

IMAGES



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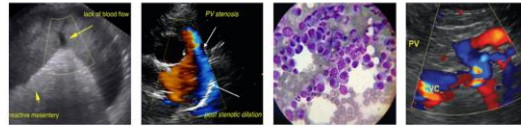
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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
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