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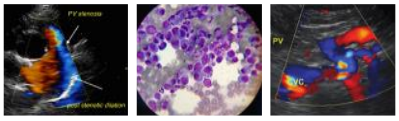

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PATIENT

Shiloh Miller

SPECIES

Canine

BREED

Beagle

SEX

Female Spayed

AGE

2012

WEIGHT

38lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

HOSPITAL NAME

Stay Pet Veterinary

REFERRING VET

Dr. Klimovitz

INVOICE

21177

DATE

9/22/21

PRESENTING CLINICAL SIGNS

History: Recheck echo. Assess prior to dental. Has been more lethargic lately but no overt cardiac signs.
-Pertinent abnormal PE/Chem/CBC/UA Results: NSF.
-Sedation used: Not needed.
-Pertinent previous ultrasound results (1/13/21 MML): Mild PS. PV max: 2.8m/s.
-STAT: Not requested.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mildly thickened mitral valve leaflets with no obvious prolapse into the left atrial lumen. Mild eccentric mitral regurgitation. Mild left atrial enlargement. Normal LV diameter with borderline myocardial function. The LV wall thickness is normal. The tricuspid valve appears normal in form and function. Trace TR. No right atrial dilation. Mild right heart prominence with no hypertrophy. Mild elevation of pulmonic outflow velocities at the level of the valve. The PV appears thickened and stenotic, with mild post-stenotic dilatation of the branch PA's. Mild pulmonic insufficiency. The aortic valve appears to have normal morphology and mobility. Normal LVOT velocity. 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	5.3	2.9	NM	1.4	28	50	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	98	1.0	3.0	17.2	2.4	3.6	2.6
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Largely unchanged pulmonic stenosis is identified in this study. While the degree of valve abnormality is significant, the velocity through the region is only mildly elevated (unchanged) with minimal right heart changes. A small tricuspid leak is noted which is hemodynamically insignificant at this time. More importantly, mild chronic degenerative valve disease appears to be developing with mild mitral regurgitation and mild left atrial enlargement. Finally, the systolic function is borderline which is of unknown significance and should be monitored going forward. Certainly, avoid BEG diets in this patient (T4 normal).

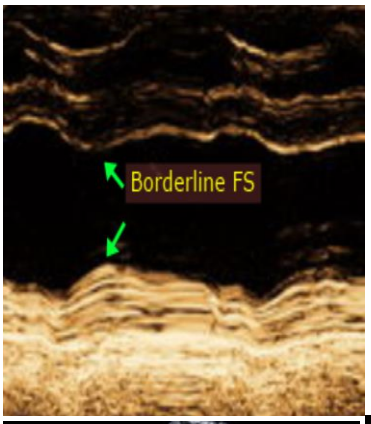
Given these findings, no cardiac medications are clearly indicated. Lethargy is unlikely to be related to mild disease and other possibilities should be considered. Prognosis is highly variable at this stage (B1).

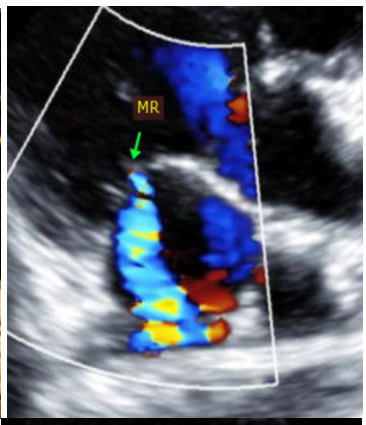
Anesthetic risk is considered mildly elevated. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate. Avoid excessive vasodilation/hypotension. Pre-oxygenate for 5-10 minutes prior to induction. A reasonable protocol would be as follows: premedicate with opioid/benzodiazepine, propofol or alfaxalone induction, isoflurane maintenance. Monitor ECG, BP as is standard. Monitor for hypoxia in recovery; utilize O2 chamber if needed. Mild IV fluid restriction is advised.

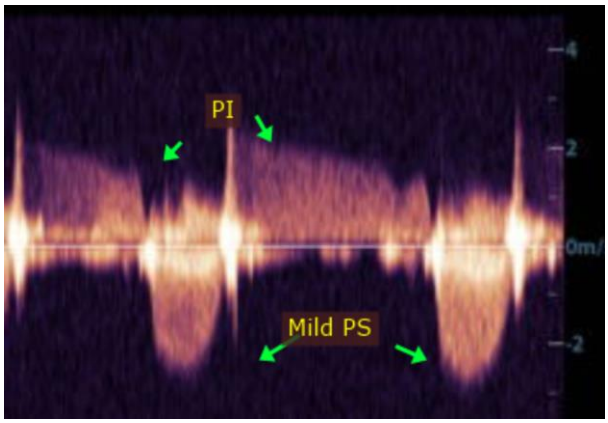
Monitor for development of associated clinical signs (exertional collapse, abdominal distention, cough, labored breathing). Omega fatty acid supplementation may have some long-term benefit, given that these cases are predisposed to development of arrhythmias going forward.

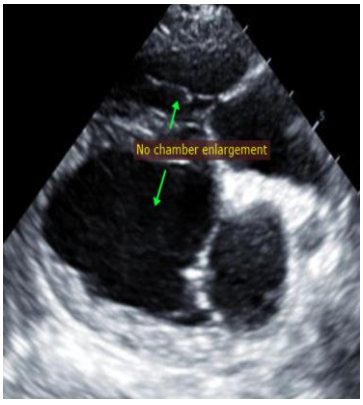
Recommend recheck echocardiogram in 6-12 months to screen for progression, sooner if clinical signs arise in the interim.

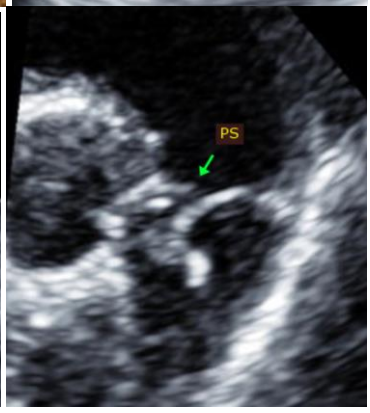
IMAGES











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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