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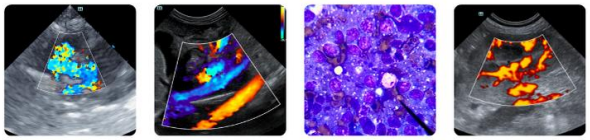

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

PATIENT
Luna Brehm

SPECIES
Canine

BREED
Mix

SEX
Female Spayed

AGE
1 year

WEIGHT
45lbs

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

IMAGING PERFORMED BY
K. Carpenter, DVM

HOSPITAL NAME
Pennridge Animal Hospital

REFERRING VET
Dr. Mehaffey

INVOICE
46413

DATE
1/13/26

PRESENTING CLINICAL SIGNS

History: History of severe pulmonic stenosis and confirmed at U. of Pennsylvania cardiology. Had a contrast bubble study (ruling out patent foramen ovale) and balloon valvuloplasty on 9/18/24. Post procedure trace TR increased to mild TR. Patient had a repeat echo 1/14/2025 - discharges say she has a mildly elevated pulmonic pressure gradient (33mmHG)/mild residual pulmonary stenosis and moderate to severe pulmonic insufficiency. Right ventricular hypertrophy was stable. The procedure was considered successful given the dramatic improvement in her pulmonic stenosis pressure gradient. Clinically patient is doing very well at home with no clinical signs. Grade II-III L and R systolic murmur. BP: 120mmHg. Sedated with Torb. Prior echo (MML- Maui HHDR): mod RHE, PV 4.9
-Current medications: Atenolol 25mg in AM and 12.5mg in PM, Fluoxetine 20 mg PO SID.

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 mitral regurgitation. Normal left atrial dimension. Normal LV diameter with normal 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 ventricular prominence with mild hypertrophy. Mild elevation of pulmonic outflow velocities at the level of the valve. The PV appears mildly thickened, with mild post-stenotic dilatation of the branch PA's. Marked 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. A wide QRS (RBBB) is 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			1.0	1.0	30	59	0.1
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	1.4	2.2	20.4	1.8	3.2	1.9
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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)

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Compared to what is described in the procedural discharge, findings appear remarkably similar, which is great news. The overall degree of disease is mild with significant PI, as is expected. The right heart is only mildly enlarged, and the remainder of the study is largely unremarkable. Given these findings, use of Atenolol may be questioned. Generally, with such dramatic improvement it is unnecessary; however, University of Pennsylvania should be consulted regarding this discussion.

Prognosis remains guarded with risk for restenosis lifelong. Lifelong monitoring remains advised.

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

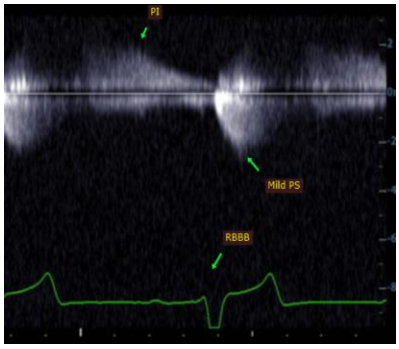
If needed, anesthetic risk is mild at this time. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary. Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol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

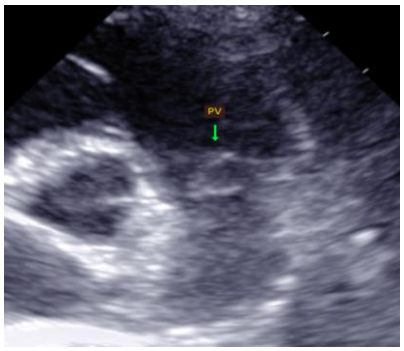
PLAN

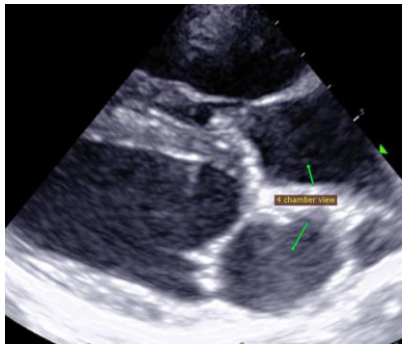
Reasonable to continue Atenolol as dictated by University of Pennsylvania.

A recheck echocardiogram is recommended annually, sooner if 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
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