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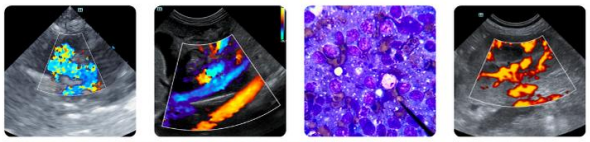
FOSTERING THE ART OF VETERINARY MEDICINE™



Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

PATIENT

Indica Alvarez

SPECIES

Canine

BREED

Pitbull

SEX

Female Spayed

AGE

5 years

WEIGHT

54lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Julia Bakker, DVM

HOSPITAL NAME

Orange Blossom Veterinary Imaging

REFERRING VET

Dr. Humphrey

INVOICE

46831

DATE

2/13/26

PRESENTING CLINICAL SIGNS

History: Diagnosed with pulmonic stenosis in 2021.
On Atenolol 25mg 1-tab q12h, Proin 74mg 1-tab q24h. Over the past 3-4 weeks developed a dry, hacking cough. Mostly after getting excited or playing and sometimes while sleeping.

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 is normal. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation present. Elevated velocity. Mild right atrial dilation. Mild right ventricular hypertrophy and remodeling indicative of pressure overload. Mild right ventricular dilation. Moderate elevation of pulmonic outflow velocities at the level of the valve; max 4.1m/s (PG 65mmHg). The PV leaflets are elongated and tethered. Mild post-stenotic dilation of the main pulmonary artery. Mild pulmonic insufficiency. The aortic valve appears to have normal morphology and mobility. No AI. No obvious cardiac shunts are visualized. No pericardial or pleural effusion 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	NA	3.0	1.1	1.2	41	76	0.4
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	1.3	4.2	24.5	2.2	3.4	2.0
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Hansson et al, Vet Rad and Ultrasound 2002				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Pulmonic stenosis persists, as was previously diagnosed. The degree of disease seen here is moderate with mild secondary right heart enlargement. A small tricuspid regurgitation is present, likely suggestive of mild valve dysplasia. The left heart is normal and additional issues are seen. Without a prior report a comparison cannot be made.

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These findings would suggest the cough is unlikely to be cardiac in origin and primary respiratory causes should be considered. Consider further respiratory work up/treatment (hydrocodone, taper course of steroids, Enrofloxacin, TTW/BAL, etc.). A poorly controlled cough can lead to development of pulmonary hypertension over time, and monitoring for associated clinical signs is recommended (primarily exertional syncope/dyspnea).

Moderate PS cases fall within a grey zone. There are many patients that will not experience clinical signs (syncope, right-sided congestive heart failure) throughout their lifetime; however, risk for progression will always remain. Given that the patient is 6 years old without clinical signs or significant right heart enlargement, simple monitoring is a reasonable approach. Reasonable to Atenolol going forward.

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.

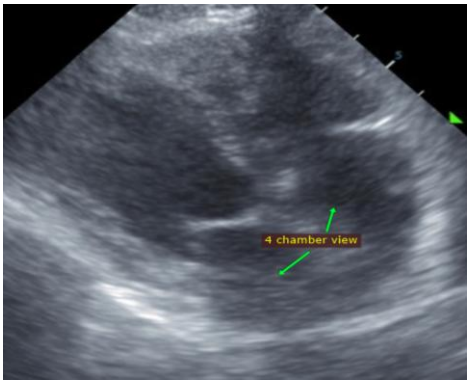
Anesthetic risk is mild to moderate at this time. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary. Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol 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.

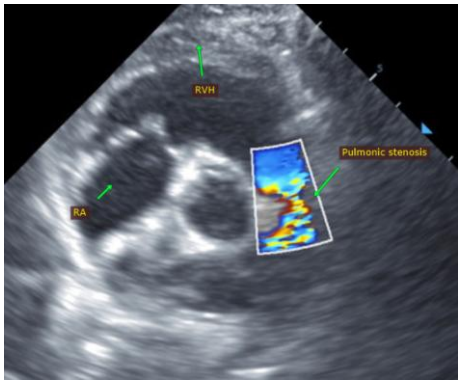
PLAN

Continue Atenolol as prescribed, ensuring stressed HRs maintain <140bpm.

Recommend recheck echocardiogram annually to screen for concurrent disease, 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.

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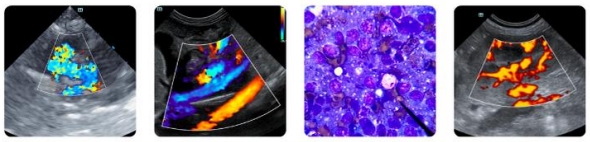

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Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com