


PATIENT

Buddy Rojas

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Male Neutered

AGE

6 years

WEIGHT

14.9lbs

PRESENTING CLINICAL SIGNS

History: History of PS, started on Atenolol (prior to 2021). In July 2021 he was pre-medicated for an anesthetic procedure with hydromorphone/midazolam/Cerenia and became excessively sedate with bradycardia. He was treated with Atropine and naloxone and the anesthetic procedure was cancelled. He was on Atenolol at the time of the procedure. It was suspected that the Atenolol contributed to the bradycardia. Internal medicine performed an echo (see attachment) and diagnosed moderate/marked pulmonic stenosis with moderate post-stenotic dilation of the pulmonary artery, moderate pulmonary insufficiency. O discontinued Atenolol after the bradycardia episode. Currently patient is taking no cardiac medications. Patient is asymptomatic.

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 normal with no insufficiency seen. Mild right atrial dilation. Mild right ventricular hypertrophy and remodeling indicative of pressure overload. Mild right ventricular dilation. Pulmonic outflow velocities are elevated at the level of the valve. The pulmonic valve appears severely thickened, tethered and stenotic. There is mild 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.

CARDIAC CHART
INTERPRETED BY

 Maggie Machen Lamy,
 DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

G. Gunther, DVM

HOSPITAL NAME

 New Frontier Animal
 Medical Center

REFERRING VET

Dr. Gunther

INVOICE

27273

DATE

11/3/22

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	1.3	42	80	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	1.6	4.7	6.8	1.5	1.9	1.2
*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



PATIENT

Buddy Rojas

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Male Neutered

AGE

6 years

WEIGHT

14.9lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Gunther, DVM

HOSPITAL NAME

New Frontier Animal
Medical Center

REFERRING VET

Dr. Gunther

INVOICE

27273

DATE

11/3/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Severe valvular pulmonic stenosis persists. Compared to what is available from the prior study, findings appear similar. The degree of obstruction is severe based upon the velocity/pressure gradient across the pulmonic valve; however, what is interesting is the right heart changes are mild. This may suggest the patients resting heart rate is relatively low at home, resulting in a less significant obstruction. Any case with severe PS carries risk for CHF in the future; however, an asymptomatic 6-year-old dog is certainly a good sign. No other obvious defects are visualized.

Referral for consideration of Ballooon Valvuloplasty should always be considered in PS cases as the gold standard and may improve long term outcome and delay onset of clinical signs (including exertional syncope and right-sided congestive heart failure). That being said, in a 6-year-old dog monitoring is certainly a reasonable alternative. While Atenolol is most always recommended in severe cases, mild right heart changes, a low resting heart rate and a lack of clinical signs suggests this is likely unnecessary. Mild exercise restriction is recommended lifelong.

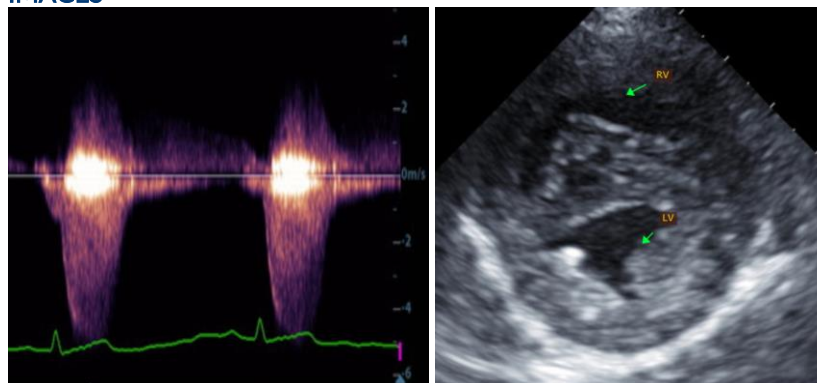
Anesthetic risk is mild to moderate at this time. **Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary.** Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised. Cardiac protective drug choices (opioid/benzodiazepine premedication,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

Consider referral as discussed.

If declined, given an asymptomatic patient with mild right heart changes, reassessment in 1 year is recommended, sooner if any syncope is noted in the interim.

IMAGES





PATIENT

Buddy Rojas

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Male Neutered

AGE

6 years

WEIGHT

14.9lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

**IMAGING
PERFORMED BY**

G. Gunther, DVM

HOSPITAL NAME

New Frontier Animal
Medical Center

REFERRING VET

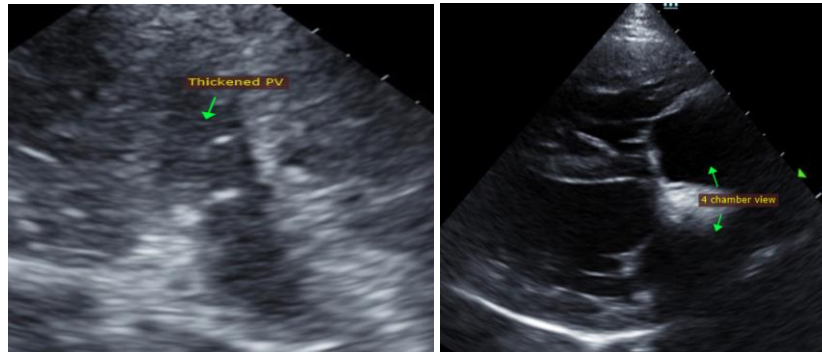
Dr. Gunther

INVOICE

27273

DATE

11/3/22



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