



PATIENT

Bender King

SPECIES

Canine

BREED

French Bulldog

SEX

Male Neutered

AGE

3.5 years

WEIGHT

29.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kelly Romero,
DVM

HOSPITAL NAME

Midtown

REFERRING VET

Dr. McCarthy

INVOICE

21786

DATE

10/31/21

PRESENTING CLINICAL SIGNS

History: Grade 3/6 systolic murmur heard at 4 months of age. Echo at CSU diagnosed with pulmonic stenosis with a PG of 62.4mmHg. Patent foramen ovale also identified with bidirectional shunting. Was started on atenolol 12.5mg BID. Recheck echo at 9 months of age (1/2019) showed improvement of the pressure - 43mmHg. The annulus was measured at 10.1 mm. There was moderate ventricular concentric hypertrophy and mild RA enlargement. Atenolol has been continued. Assess prior to dental.
-Blood pressure 171/131, mean 144mmHg.

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 adequate myocardial function. The LV wall is normal. The tricuspid valve appears normal with no tricuspid regurgitation identified. 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 3.6m/s consistent with a pressure gradient of 52mmHg. The PV leaflets are elongated, thickened and tethered. Post-stenotic dilation of the main pulmonary artery and branches. 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	NA	1.3	1.2	53	86	0.7
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	0.94	3.6	13.3	1.6	2.4	1.1
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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

Bender King

SPECIES

Canine

BREED

French Bulldog

SEX

Male Neutered

AGE

3.5 years

WEIGHT

29.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kelly Romero,
DVM

HOSPITAL NAME

Midtown

REFERRING VET

Dr. McCarthy

INVOICE

21786

DATE

10/31/21

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Mild pulmonic stenosis persists without evidence of progression. The max recorded velocity through the valve is slightly improved; however, this may be due to inter-observer variability. The description of the right heart is similar to what is seen here without obvious structural progression. The previously noted PFO is not appreciated. No additional issues are identified.

Continue Atenolol lifelong as prescribed. 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.

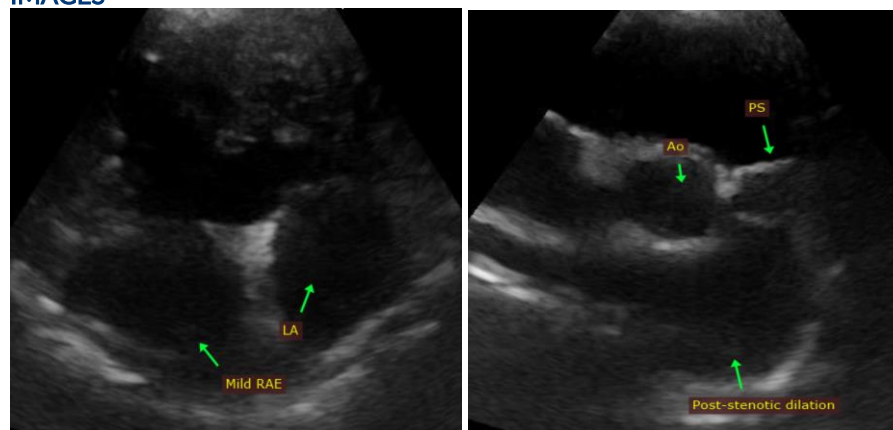
Fortunately, even with significant congenital disease this patient's anesthetic risk is only mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

PLAN

Continue Atenolol as prescribed.

Recommend recheck echocardiogram 12 months to assess for progression, sooner if symptoms 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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com