



PATIENT

Orko Velez

PRESENTING CLINICAL SIGNS

History: Presented for fainting and collapse episodes. Started on Atenolol. Assess prior to anesthesia.

SPECIES

Canine

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Mild Cardiomegaly. No obvious evidence of CHF.

BREED

Boxer

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets appears normal with no mitral regurgitation. No obvious prolapse into the left atrial lumen. No left atrial dilation. Normal LV internal diameter with normal myocardial function. The left ventricular walls are minimally hypertrophied. Mildly enlarged papillary muscles. Sub-aortic narrowing is visualized (see below). The aortic valve appears trileaflet although mildly thickened overall. Moderate sub-aortic stenosis is identified. Trace aortic insufficiency. The tricuspid valve appears subjectively normal with no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal PA outflow velocity. No pericardial or pleural effusion noted. No cardiac tumors identified.

AGE

16 months

CARDIAC CHART

WEIGHT

60lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

| 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 | 1.5 | 42 | 74 | 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 | 107 | 3.9 | 1.1 | 27.2 | 3.3 | 3.9 | 2.2 | |
| *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

HOSPITAL NAME

Pulse: Pet Ultrasound Services

REFERRING VET

Dr. Crecioni

INVOICE

30501

DATE

4/28/23

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is sub-aortic stenosis (SAS) causing elevated blood flow velocity through the LVOT and aortic valve. The velocity suggest moderate pressure gradient; however, there is no secondary left heart remodeling appreciated. There is also a small aortic leak, which should be monitored going forward. The appearance of the valve does support a mild valvular component as well. No additional issues are identified in this study.



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Surgery for SAS has not been proven to alter long term outcome, however select Universities will attempt a cutting balloon valvuloplasty. Continued medical management through heart rate control is recommended as below, in hopes of decreasing the obstruction long term. Omega fatty acid supplementation may be of some long-term benefit.

SPECIES

Canine

It is somewhat surprising to see syncopal episodes with only a moderate stenosis. If episodes persists despite Atenolol therapy and adequate heart rate control, consider other possibilities in this predisposed breed. Vasovagal events are overrepresented; however, we must also screen this patient for ventricular arrhythmias lifelong.

BREED

Boxer

Prognosis is guarded yet highly variable, with many dogs in the severe category succumbing to malignant arrhythmias by mid-life and others maintaining asymptomatic status for some time. Serial echocardiography is recommended lifelong to assess for progression and risk for complication as the patient matures. Monitor for development of labored breathing, exercise intolerance or collapse episodes, as SAS patients are more predisposed to development of arrhythmias than to CHF. Mild exercise restriction is advised lifelong.

SEX

Male Neutered

Once Atenolol is initiated, anesthetic risk is mild. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated. Avoid ketamine and acepromazine due to systemic vascular effects. Mild IV fluid restriction is advised. Recommend prophylactic antibiotics for any orthopedic or dental procedure in the future given predisposition to endocarditis.

AGE

16 months

WEIGHT

60lbs

PLAN

Continue Atenolol to effect: 0.5-1.5mg/kg SID-BID (up-titrate to desired effect). Goal is to suppress heart rate <130bpm even with stress/activity. If episodes persist despite therapy, consider other explanations. A holter monitor should be considered.

INTERPRETED BY

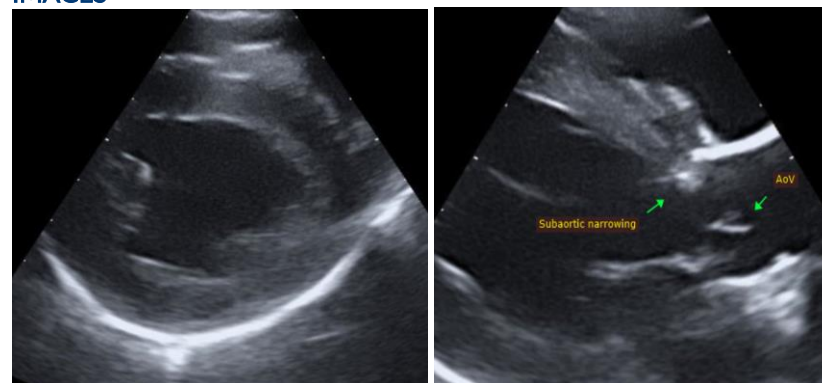
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(Cardiology)

Recommend recheck echocardiogram annually, sooner if clinical signs arise.

IMAGING PERFORMED BY

G. Ferrer, DVM

IMAGES



HOSPITAL NAME

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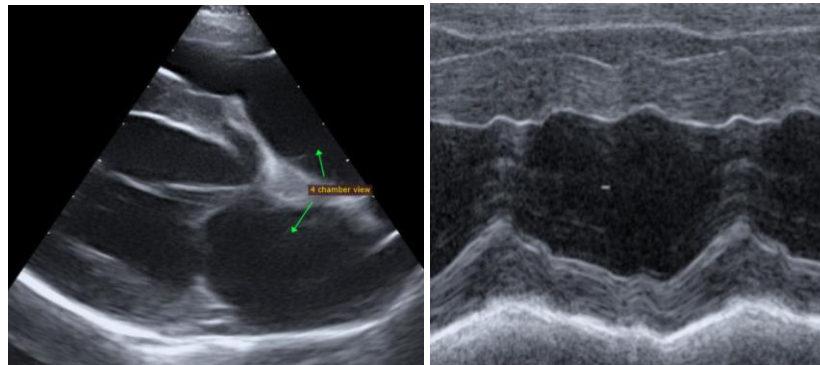
Male Neutered

AGE

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WEIGHT

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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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