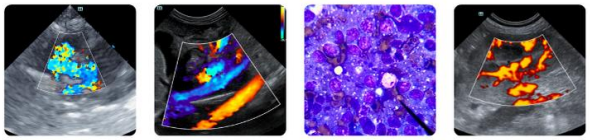

PATIENT

Finn Paez

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

3 years

WEIGHT

16.8lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Amy Alivernini, VMD

HOSPITAL NAME

Gilbertsville Veterinary Hospital

REFERRING VET

Dr. Reist

INVOICE

46557

DATE

1/23/26

PRESENTING CLINICAL SIGNS

History: History of cough since 10/2025; not improved on Clavamox, Doxycycline 40mg BID, Theophylline 75mg BID cough tabs. Multiple episodes of syncope associated with excitement. Sedated with Trazodone 50mg PO, Gabapentin 50mg PO, Torb 0.3mg/kg IV and Midazolam 0.3mg/kg IV. No murmur or arrhythmia. Very anxious. BP: 162mmHg.
-CXR report: possible right-sided cardiomegaly versus normal variant. Possible MPA enlargement.

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 with a normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears thickened with no tricuspid regurgitation. Mild right atrial enlargement; moderate right ventricular hypertrophy and enlargement consistent with pressure overload. Septal flattening noted. The pulmonic and aortic valves are normal in morphology and mobility. Mild to moderate main PA and branch dilation. Normal pulmonic outflow velocities. Trace PI. No AI. No pericardial or pleural effusion. No cardiac tumors observed.

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	NM	1.2	52	88	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	140	1.1	1.2	7.6	1.7	2.2	1.0
*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)
				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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The only abnormality identified is evidence of right-sided pressure overload and MPA enlargement. This may be suggestive of pulmonary hypertension in a dog with a chronic cough. That being said, in a 3-year-old dog this is somewhat unusual to see unless heartworm disease was noted previously. Further historical information should be obtained. An ancillary issue, such as a right to left PDA or some congenital abnormality, cannot be ruled out. The left heart appears normal, with no significant pathology seen. Given the unusual nature of the findings in a dog without reported heartworm disease, referral may be reasonable in this case.

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The underlying genesis of PAH is poorly understood in cases other than heartworm infestation, though it occurs with increased frequency in a variety of forms of chronic lung disease and in patients with idiopathic pulmonary fibrosis. In a predisposed breed with a chronic cough, the origin is likely underlying chronic airway disease. It is important to note that PAH does NOT cause a cough; rather the opposite is true.

Clinical signs of weakness, heavy breathing, cyanosis, and syncope are attributed to severe PAH. Treatment for PAH is typically recommended with severe PG (>80mmHg) or associated clinical signs including syncope or exertional dyspnea/cyanosis. While PAH may lead to exertional collapse episodes, what is described in the history is most consistent with vasovagal events (i.e. cough-induced). In these instances, controlling the cough will help avoid the collapse. Sildenafil may be a reasonable medication in this case regardless, given right heart enlargement. Consider Hydrocodone, anti-inflammatory course of Prednisone, etc. if needed for the cough symptom. If therapy for the cough is unsuccessful, highly recommend TTW/BAL for further information.

No additional cardiac medications are clearly indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of labored breathing, exercise intolerance or collapse episodes.

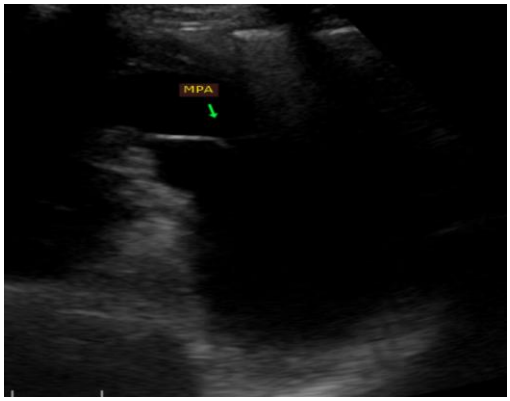
Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively 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.

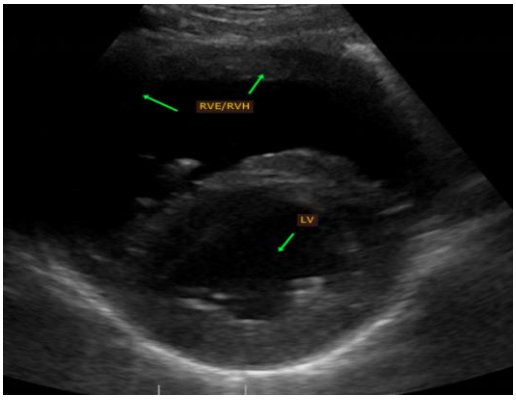
PLAN

Consider referral due to the unexpected nature of the findings. Consider Sildenafil 1-2mg/kg by mouth every 12 hours. Address cough/respiratory disease as discussed.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs

IMAGES





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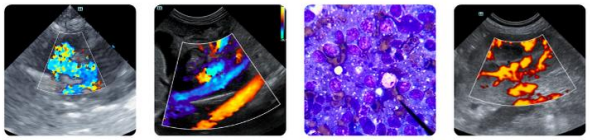

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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