



PATIENT

Peanut Capaz

SPECIES

Canine

BREED

Yorkshire

SEX

Female

AGE

14 years

WEIGHT

7.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Paul Kim, DVM

HOSPITAL NAME

Ridgefield Park
Animal Hospital

REFERRING VET

Dr. Kim

INVOICE

28274

DATE

1/11/23

PRESENTING CLINICAL SIGNS

History: Presented for trouble breathing, hacking coughing and panting,

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with minimal prolapse into the left atrial lumen. Moderate mitral regurgitation is suspected (not visualized) with moderate left atrial dilation. Mild LV dilation with hyperdynamic myocardial function. The tricuspid valve appears thickened with septal prolapse and at least mild TR is appreciated. Velocity consistent with moderate pulmonary hypertension; however, this is suspected to be an underestimation. Marked right atrial and ventricular dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. Marked MPA dilation. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	5.5	4.1	NM	1.8	55	90	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	NM	NM	3.3	1.8	2.0	0.9
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and tricuspid regurgitation. Moderate left atrial enlargement indicates the risk for spontaneous congestive heart failure may be elevated in the future. Severe pulmonary hypertension is suspected, which may be due to a combination of chronic LA pressure elevation and airway disease. Of great significance, the right heart and MPA are markedly dilated, suggesting a chronic process. No additional issues are identified.

The history describes significant respiratory signs. CHF as well as respiratory disease are both possible in this case and it is difficult to know which to treat in the acute phase as CHF is a



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radiographic diagnosis that can only be supported by ultrasound. Highly recommend baseline chest radiographs with a Radiologist review to determine if CHF is present. See medication recommendations below.

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Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

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Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

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PLAN

Highly recommend baseline CXR with a Radiologist review to determine if CHF is present. If confirmed, institute Furosemide 1-2mg/kg PO q12h. If respiratory disease is the likely cause, consider board-spectrum antibiotic therapy, etc. as dictated by the CXR results. Regardless, recommend the following medical support: institute Pimobendan 0.3mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Institute ACE-I 0.5mg/kg PO q12h. Institute Sildenafil 1.-2mg/kg PO q8h.

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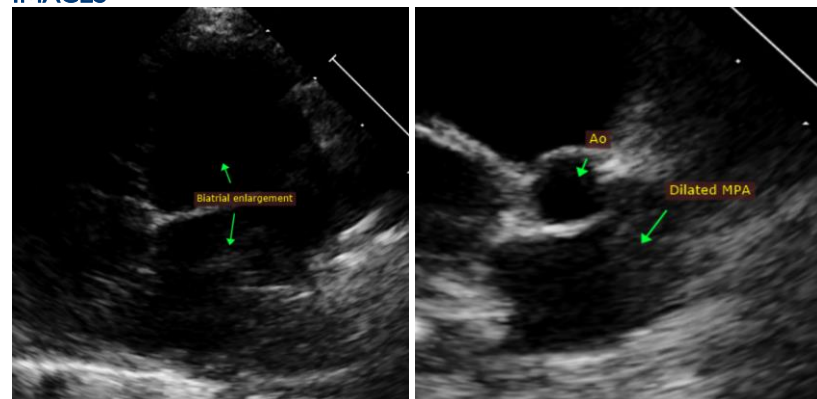
Monitor SRRs at home. Monitor renal values in 10-14 days, then every 3-4 months while on diuretics. Consider hydrocodone if needed for QOL.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

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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



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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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