



PATIENT

Rambo Ward

SPECIES

Canine

BREED

Bulldog

SEX

Male Neutered

AGE

10 years

WEIGHT

36.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Andrea Nicastro

HOSPITAL NAME

Park West Veterinary
Associates

REFERRING VET

Dr. Mauer

INVOICE

26912

DATE

10/14/22

PRESENTING CLINICAL SIGNS

History: Past couple weeks seems lethargic, and belly bloated after eating.

-Abnormal PE/Chem/CBC/UA Results: AST 87 IU/L ALT 276 IU/L Alk Phosphatase 258 IU/L T4 0.5 ug/dL

-Radiographs: 1. Mild right dorsal lateral displacement of the intrathoracic trachea- heart base tumor is considered. 2. Moderate to severe spondylosis deformans- consistent with intervertebral disc degeneration. 3. Moderate right and severe left elbow osteoarthritis. 4. Moderate bilateral stifle osteoarthritis- most consistent with cranial cruciate desmopathy. 5. Mild bilateral shoulder osteoarthritis.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Uniform echogenicity mass associated with the aortic root; 2.6 x 2.7cm in best viewed cross section. The mass is well encapsulated and near the bifurcation of the pulmonary artery. No obstruction to blood flow or imposition on cardiac chambers is seen at this time. Mild mitral regurgitation, thickened mitral valve with no obvious prolapse. LV function is adequate. Left atrium is normal. LV is normal in diameter. Mildly thickened TV with mild TR; velocity consistent with mild pulmonary hypertension. Normal right heart chamber dimensions. The pulmonic and aortic valves are normal in appearance. Normal LVOT and RVOT velocity. No AI or PI identified. No pericardial or pleural effusion.

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	NM	3.0	NM	1.3	50	92	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	1.4	0.9	16.5	2.5	4.0	2.0
*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)
<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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and tricuspid regurgitation. Lack of left atrial enlargement indicates the current risk for complication is low. Mild pulmonary hypertension is noted, which this breed is predisposed too and is not surprising given likely underlying airway issues. No concurrent issues such as, systolic dysfunction are noted in this study.

There is also suspect cardiac neoplasia associated with the heart base. The most likely tumor type given this location and the breed is a chemodectoma, however other more malignant differentials cannot be ruled out. Chemodectomas are often incidental findings as is suspected to be the case here, only causing clinical signs if blood flow is obstructed, pericardial effusion occurs, or a metastatic lesion causing systemic issues. It is difficult to definitively evaluate the mass peripherally (i.e., cannot rule out peripheral obstruction of flow through distal PA's) and a CT may be helpful to screen for true extent.

The prognosis with cardiac chemodectomas is fair. The limiting factor is often hemorrhage into the pericardium, impingement of cardiac blood flow secondary to tumor growth, or metastasis to the thorax or abdomen. Chemotherapy and/or radiation therapy can also be discussed with an Oncologist.

Given these findings, a cardiac issue related to the clinical signs is not suspected. The tumor is unlikely to be causing issues at this size as discussed, although this may certainly change as the mass grows. Regardless at this time I would not consider this highly important to the current issues, and primary respiratory issues are more likely. Should the tumor increase in dimension and lead to congestion, this is most commonly right-sided congestion (ascites/effusions) with increasing pulmonary pressures and syncope with exertion. Monitoring is advised.

No cardiac medications are indicated at this time. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, 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

No obvious indication for Lasix or cardiac therapy. Recheck tumor size via echocardiography in 4-6 months, sooner if clinical signs arise. Consider further evaluation of tumor extent through thoracic CT as discussed.



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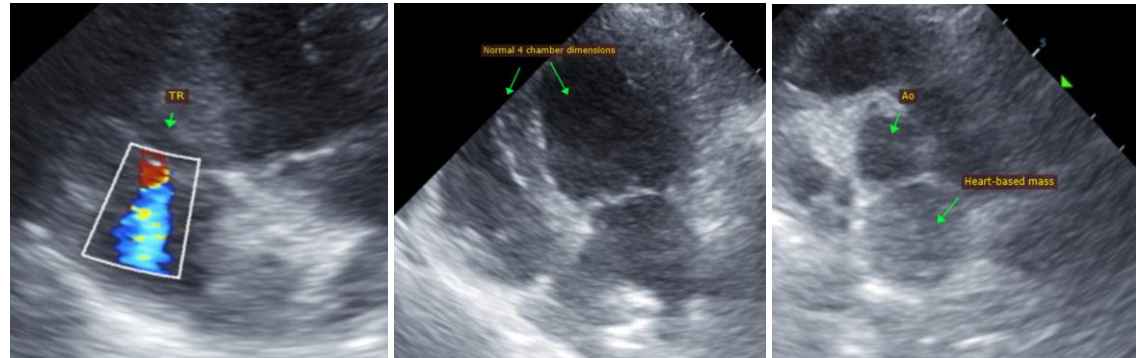
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IMAGES



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.

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