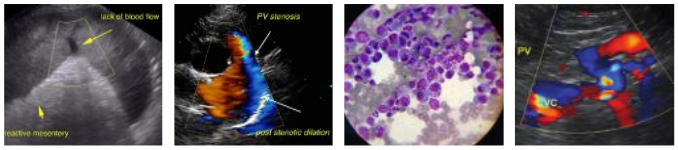
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Coco Channel Marrero

SPECIES
Canine

BREED
Boston Terrier

SEX
Female Spayed

AGE
13 years

WEIGHT
29lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Ferrer, DVM

HOSPITAL NAME
Paseos Veterinary Center

REFERRING VET
Dr. Ortiz

INVOICE
21722

DATE
10/26/21

PRESENTING CLINICAL SIGNS

History: 3 day history of cough and anorexia. CXR report: severe left sided cardiomegaly with CHF, tracheal collapse, suspect cranial mediastinal mass.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is mildly diffusely thickened with no prolapse into the left atrial lumen. There is moderate eccentric mitral regurgitation present. There is severe left atrial enlargement. There is moderate left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Mild right heart enlargement (subjective). Mild thickening of the tricuspid valve with mild tricuspid regurgitation. No obvious pulmonary hypertension. No pericardial/pleural effusion seen. Well demarcated tumor associated with the heart base; 4.6cm x 4.5cm. No impingement on great vessels or cardiac chambers is noted.

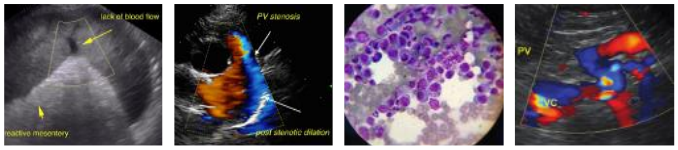
CARDIAC CHART

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	NM	NM	NM	2.5	31	59	0.33
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	1.2	1.8	13.2	3.1	3.9	2.7
*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

Chronic degenerative valve disease causing significant mitral and mild tricuspid regurgitation. Severe LA dilation is noted, which supports the recent diagnosis of CHF. A cardiac tumor which appears to be associated with the aortic root is also identified. The most likely tumor type given this location and breed is a chemodectoma, however other differentials cannot be ruled out (ectopic parathyroid, hemangiosarcoma, etc).



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Coco Channel Marrero

SPECIES
Canine

BREED
Boston Terrier

SEX
Female Spayed

AGE
13 years

WEIGHT
29lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Ferrer, DVM

HOSPITAL NAME
Paseos Veterinary Center

REFERRING VET
Dr. Ortiz

INVOICE
21722

DATE
10/26/21

Chemodectomas are often incidental findings, only causing clinical signs if blood flow is obstructed, pericardial effusion occurs, or a metastatic lesion causing systemic issues. The prognosis with cardiac chemodectomas is fair, with a MST of 1-2 years; however, outcome in this case is likely **limited by CVD/CHF with a more guarded prognosis of <1year.** The limiting factor is with cardiac neoplasia is often hemorrhage into the pericardium. Other sequelae include impingement of cardiac blood flow secondary to tumor growth, or metastasis to the thorax or abdomen. At this time this is considered an incidental finding (although it may be contributing to a clinical cough), and is unlikely to be causing an clinical issues. Compression of the MPA and branches is not overtly seen; however, peripheral impingement is possible. Consider systemic screening for evidence of metastasis (AUS, etc) in addition to referral for advanced imaging such as thoracic CT scan to further investigate the lesion. It is important to note that the tumor is INDEPENDENT of left heart disease; rather, this would lead to right-sided cardiomegaly and development of effusions (as compared to recent pulmonary edema).

Gan arrhythmia is noted during the study, and a screening ECG is strongly recommended. Structural disease in addition to cardiac neoplasia puts this patient at high risk for malignant arrhythmias and sudden death and the owner should be alerted to this possibility.

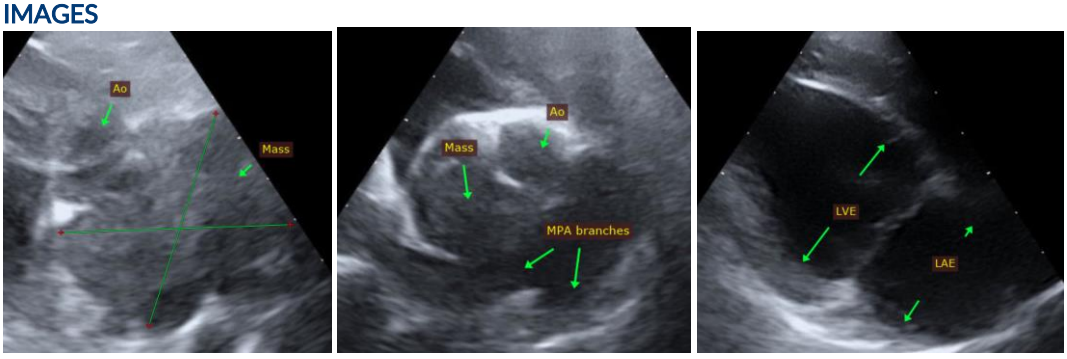
Given the severity of left-heart disease, the diagnosis of CHF is supported and continued cardiac support is recommended as below including diuretic therapy. Hydrocodone may also be beneficial in the event a mechanical cough persists due to cardiomegaly/mechanical obstruction. Should effusions develop in the future, reassessment is advised as further tumor growth/ impingement/infiltration is certainly possible going forward.

Omega fatty acid supplementation and mild salt restriction may also be of some long term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. **Serial monitoring of SRRs is recommended as the best way to screen for progression towards CHF at home.**

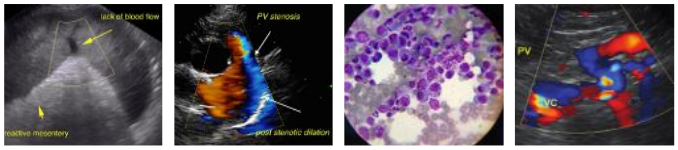
Plan: Screening BP recommended. Consider CT/AUS/systemic screening. Institute furosemide 1-2mg/kg PO q12h. Institute Pimobendan 0.25-0.3mg/kg PO q12h. Pending BP >130mmHg, institute ACEI 0.5mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Consider hydrocodone if needed.

A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

IMAGES



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Coco Channel Marrero

SPECIES
Canine

BREED
Boston Terrier

SEX
Female Spayed

AGE
13 years

WEIGHT
29lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Ferrer, DVM

HOSPITAL NAME
Paseos Veterinary Center

REFERRING VET
Dr. Ortiz

INVOICE
21722

DATE
10/26/21

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