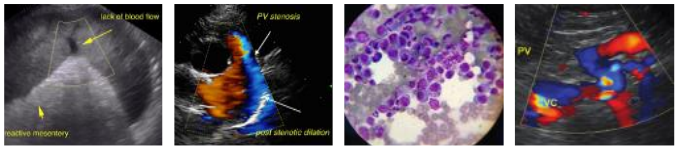
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Goose Natale

SPECIES
Canine

BREED
Boston Terrier

SEX
Female Spayed

AGE
12 years

WEIGHT
16.8lbs

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

IMAGING PERFORMED BY
Travis Cerf, DVM

HOSPITAL NAME
Veterinary Center of Hardyston

REFERRING VET
Dr. Cerf

INVOICE
21551

DATE
10/15/21

PRESENTING CLINICAL SIGNS

History: Grade 4 heart murmur, enlarged cardiac silhouette, pendulous abdomen, free fluid in abdomen, dental disease, PU/PD, no coughing/gagging, normal exercise tolerance.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Massive soft tissue lesion is visualized (4.6 x 4.9cm in best viewed cross-section). The mass appears to be associated with the heart base, seen adjacent to the aortic root. Mild to moderate mitral regurgitation with mild thickening of the mitral valve. LV function and dimension is normal. Left atrium is mildly enlarged. RA/RV dimensions are markedly increased with septal flattening. Severe TR with prolapse of the tricuspid valve. Velocity consistent with mild pulmonary hypertension, likely secondary to compression. The pulmonic and aortic valves are normal in appearance. Normal RVOT velocity. No PI identified. No pleural or pericardial effusion is seen. Significant hepatic congestion with ascites.

CARDIAC CHART

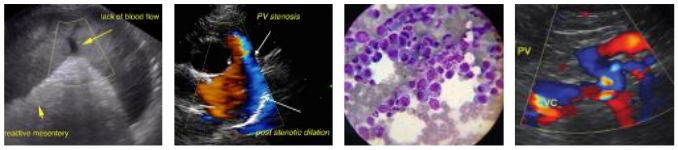
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NA	3.3	NM	1.4	32	60	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**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	0.81	7.6	2.3	2.5	1.7
*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

Primary cardiac neoplasia is identified likely compressing the peripheral pulmonary vasculature. Once a mass is impeding blood flow, the patient is at extremely high risk for congestive signs as are seen here. The degree of hepatic congestion is severe and has resulted in free fluid within the abdomen. There is also chronic degenerative valve disease present which is at least comparatively insignificant at this time.

Given the signalment and the size of the mass, the likely diagnosis is a chemodectoma, however a less common tumor such as ectopic parathyroid, lymphoma, etc. cannot be entirely ruled out without a biopsy. The issue is more of a mechanical obstruction than true pulmonary hypertension, and sildenafil will be of little benefit. The best we can do is remove effusions should they occur and use medications for congestive heart failure to help slow development of



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fluid accumulation. The size of the mass should be relayed as a grave prognosis, as the patient is already experiencing associated clinical signs that are certainly related (CHF). Supportive care can be attempted for the short term; however, diuretics and cough suppressants are a band aid over a much bigger issue as the tumor continues to grow. Euthanasia should be considered in this case should quality of life suffer in the future.

Going forward there are some options for obtaining more information and palliating this type of cancer. Should the client elect to proceed, radiation and/or chemotherapy can be discussed with an Oncologist.

High risk will always remain for recurrent effusions (pericardial, pleural or abdominal) and development of arrhythmias/sudden death at home. Monitor at home for progressive abdominal distention, labored breathing and/or lethargy and collapse.

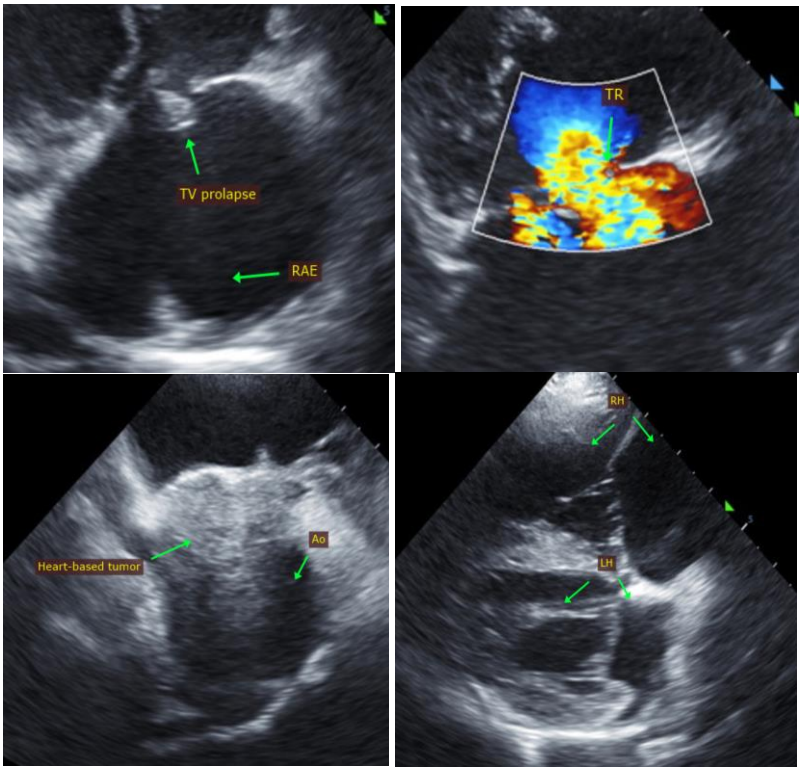
PLAN

Administer Furosemide 1-2mg/kg PO q12h.). Administer spironolactone 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Administer further supportive care including Hydrocodone. Centesis as required for comfort and appetite.

A renal panel is recommended in 5-7 days, then every 2-3 months going forward. Consider referral for further diagnostics and/or Oncology consult. Euthanasia should be considered should quality of life suffer at any time.

A recheck echocardiogram to reassess mass dimension and heart size is recommended in 2-3 months.

IMAGES



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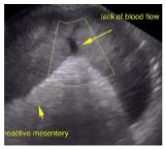

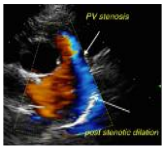

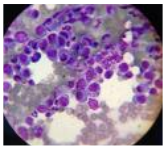
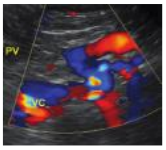

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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