



PATIENT

Snoopy Krueger

SPECIES

Canine

BREED

Beagle

SEX

Male Neutered

AGE

8 years

WEIGHT

34.2lbs

PRESENTING CLINICAL SIGNS

History: History of a grade II-III/VI heart murmur. No arrhythmia and lungs auscult normal. Owner noticed that the abdomen has slowly been increasing in size. No coughing, but hyporexic. Echo performed, suspected CHF with pericardial effusion. Ascites present. BP: 130, 128, 146, 150, 148, 142mmhg.

-Abnormal PE/Chem/CBC/UA Results: CRT+2-3 sec MM=Pink Distended abdomen with serosanguineous fluid aspirated was low in cellularity. CBC/Chem indicates a basophilia 0.25 (0-0.01) HCT 37% (37.3_61.7%) otherwise normal CBC.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Globoid cardiomegaly with evidence of ascites.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild thickening of the anterior leaflet of the mitral valve with no obvious prolapse into the left atrial lumen. Mild mitral regurgitation with minimal left atrial dilation. Normal LV diameter with adequate myocardial function. Normal LV wall thickness. Tricuspid valve appears mildly thickened; mild TR. Concern for early tamponade. No obvious tumor in the RA or right auricle. No obvious lesion associated with the AV groove. Increased opacity along the heart base; however, this is not definitive. The pulmonic and aortic valves are normal in morphology and mobility. Moderate volume pericardial effusion. No pleural effusion seen. Evidence of ascites and hepatic congestion.

CARDIAC CHART

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

K. Kicker DVM

HOSPITAL NAME

Wauwatosa
Veterinary Clinic

REFERRING VET

Dr. Binor

INVOICE

30123

DATE

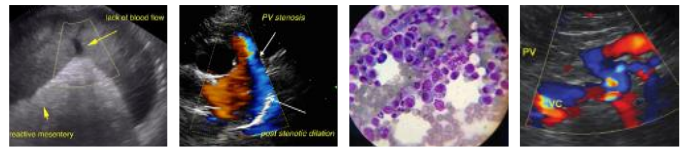
4/7/23

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	1.3	31	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	NM	15.5	2.6	3.3	2.3
*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



PATIENT	<u>INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS</u>
Snoopy Krueger	The cause of the symptoms is pericardial effusion. The cardiac structure and function are largely normal in this patient, with evidence of mild valve disease. The right heart is NOT enlarged, suggesting right-sided CHF is unlikely. The patient is suspected to be in early cardiac tamponade (ascites, diastolic collapse of the RA), and a pericardiocentesis is warranted . No definitive tumors are seen in this study; however, a suspicious opacity is seen associated with the heart base. This is not definitive and advanced imaging is recommended.
SPECIES	
Canine	
BREED	
Beagle	Assuming the effusion is hemorrhagic (most likely), the two most common causes of pericardial effusion in older dogs are idiopathic and neoplastic. Less commonly, pericarditis (an inflammatory condition), a left atrial tear, or a bleeding disorder should also be considered. Idiopathic by definition means that a cause cannot be found. If diagnosed (a rule out diagnosis), the long-term prognosis with idiopathic effusion has the potential to be fair.
SEX	
Male Neutered	
AGE	
8 years	Regarding neoplasia, the most common types of cardiac cancer causing pericardial effusion include hemangiosarcoma (HSA), chemodectoma, or mesothelioma. The prognosis varies a great deal depending on the underlying type of cancer. The heart base is concerning, although not definitive and should be monitored. A reevaluation is recommended in the next 1-2 months, as often small masses will become apparent in that period of time. An echocardiogram by an attending Cardiologist and/or thoracic CT may also be reasonable to further screen the external surface of the heart. Even without definitive identification, one should always be suspicious for neoplasia given the signalment.
WEIGHT	
34.2lbs	
INTERPRETED BY	Given the volume of effusion and evidence of tamponade, a pericardiocentesis is recommended for both diagnostic and therapeutic purposes in this case. One atypical finding is the ascites has reportedly be slowly developing based upon appearance, which may suggest some other cause for the findings. Sampling of the abdominal effusion is also recommended. If this is not ideal at your facility, referral to a multi-specialty center is highly recommended for the procedure. Once a sample is obtained, follow up diagnostics to screen for underlying causes is recommended to determine treatment/follow up plan (fluid cytology, AUS, etc.).
Maggie Machen Lamy, DVM, DACVIM (Cardiology)	
IMAGING PERFORMED BY	
K. Kicker DVM	
HOSPITAL NAME	Regardless of underlying cause, it is impossible to predict if and when pericardial effusion will reoccur. Some patients with idiopathic effusion need to be tapped between 1 to 3 times then never again. Other patients may experience frequent recurrence with either HSA or idiopathic disease. If the effusion reoccurs frequently, a surgical procedure called a pericardectomy can be discussed.
Wauwatosa Veterinary Clinic	
REFERRING VET	No cardiac medications are clearly indicated at this time. Over the counter herbal supplement Yunnan Baiyao (aka Yunnan Paiyao) may help decrease risk of bleeding, however true benefit is speculative (1 capsule PO BID). Please monitor at home for signs of recurrent pericardial effusion including pale gums, difficulty breathing, lethargy/collapse, exercise intolerance, abdominal distention, vomiting, and/or inappetance. If you notice any of these symptoms, patient should be evaluated immediately by a veterinarian.
Dr. Binor	
INVOICE	
30123	
DATE	Plan: Sampling of both pericardial effusion and abdominal effusion is recommended ASAP. Consider referral, full systemic work up as discussed.
4/7/23	A recheck echocardiogram is recommended based upon results of discussed pericardiocentesis and work up. If the patient does well, reassess for tumor development in 1-2 months.



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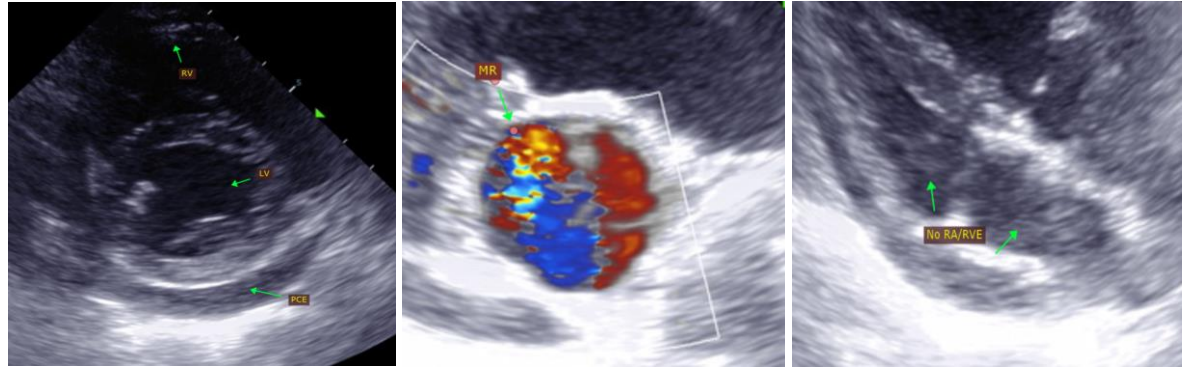
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4/7/23

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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