



PATIENT

Haze Garcia

SPECIES

Canine

BREED

Belgium Malinois

SEX

Male Intact

AGE

9 years

WEIGHT

73.2lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Ferrer, DVM

HOSPITAL NAME

Paseos Veterinary
Center

REFERRING VET

Dr. Franco

INVOICE

22781

DATE

2/23/22

PRESENTING CLINICAL SIGNS

History: Patient presented on shock and painful panting and has difficulty breathing. A pericardial tap was performed and non-clotting blood was removed. The patient became more comfortable. Abdominal tap removed clear fluid - declined culture and fluid analysis for now IV fluids -- furosemide spironolactone cefazolin
-Abnormal PE/Chem/CBC/UA Results: cbc - ok chem - electrolyte in balance.
-Radiographs: Globoid heart and severe pulmonary edema - severe ascites 4dx - positive ehrlichia but most likely this is a not active dz - once stable and with a cardiac dx will place dog on doxy prophylactically.

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. No mitral regurgitation with normal left atrial dimension. Normal LV diameter with adequate myocardial function. Normal LV wall thickness. Tricuspid valve appears normal, no TR. Diastolic collapse of the RA consistent with tamponade. No obvious tumor in the right atrium. The tip of the right auricular is hyperechoic and there is a hypoechoic region associated with AV groove; however, this is not consistent. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities; laminar flow. No AI/pulmonic insufficiency. Large volume pericardial effusion. No pleural effusion seen.

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	1.3	30	57	0.8
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	0.8	0.8	33.2	3.3	4.9	3.4
*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

The cause of the clinical signs is hemorrhagic pericardial effusion. The cardiac structure and function are largely normal in this patient, ruling out CHF as a risk. The patient was in active tamponade with development of ascites, which was reportedly relieved through a pericardiocentesis.

The two most common causes of hemorrhagic pericardial effusion in older large breeds 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.

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. In this particular breed, a hemangiosarcoma would be considered most likely, however no discrete tumors were seen today. There is, however, suspicious region along the wall of the right heart, which should be monitored. Extra-cardiac lesions are easily missed without advanced diagnostics and referral for a thoracic CT scan could be considered. Additionally, systemic evaluation (AUS) is recommended to screen for additional lesions (i.e., splenic mass).

Consider further evaluation, such as submitting the fluid for cytology, abdominal ultrasound, etc.

Regardless of underlying cause, it is impossible to predict if and when pericardial effusion will recur. Some patients with idiopathic effusion need to be tapped between 1 and 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 pericardiectomy can be discussed.

This patient will always be at risk for signs of recurrent pericardial effusion including pale gums, difficulty breathing, lethargy/collapse, cough, exercise intolerance, abdominal distention, vomiting, inappetence and/or sudden death. If you notice any of these symptoms, urgent evaluation should be sought.

PLAN

Consider referral for advanced imaging as discussed. No cardiac medications are clearly indicated at this time; Lasix/spironolactone should be discontinued. Over the counter herbal supplement Yunnan Baiyao may help decrease risk of bleeding, however true benefit is speculative (1 capsule PO BID). A recheck of tumor dimension and fluid accumulation can be considered in 1-2 months if patient does well, sooner if recurrence of clinical signs.



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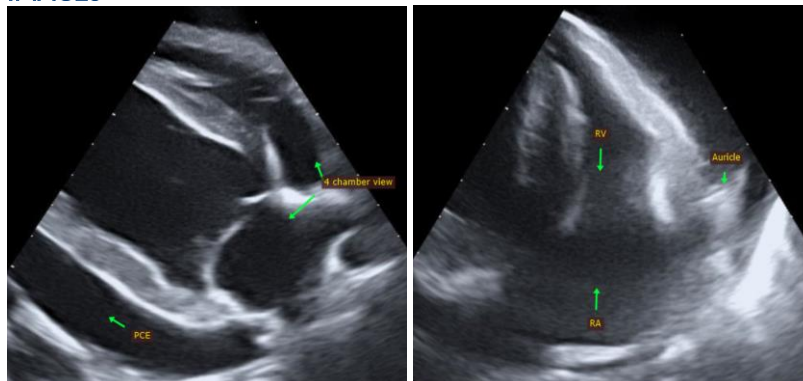
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IMAGES



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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