


**PATIENT**

Bonzai Reyes

**PRESENTING CLINICAL SIGNS**

History: Pericardial effusion - removed 120mL of non-clotting blood 6 days ago. Irregular heart rhythm, weak pulses + ascites.

**SPECIES**

Canine

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Normal LV diameter with adequate myocardial function. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. Diastolic collapse of the RA consistent with tamponade. No obvious tumor in the AV groove or associated with the right auricle/RA or heart base. No tricuspid regurgitation identified. No mitral regurgitation is seen. No left atrial enlargement. Blood flow through the LVOT and RVOT are normal in velocity. Moderate volume pericardial effusion.

**BREED**

Pitbull Mix

**SEX**

Male Intact

**CARDIAC CHART**
**AGE**

6 years

**WEIGHT**

87.2lbs

**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM, DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**

 Dana Alterman,  
 RDMS, LVT

**HOSPITAL NAME**

Eubank Animal Clinic

**REFERRING VET**

Dr. Martin

**INVOICE**

24993

**DATE**

6/27/22

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	NA	NA	NM	1.2	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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	NM	1.4	1.5	39.6	2.8	5.0	2.5
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The two most common causes of hemorrhagic pericardial effusion in large breed 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 signalment, hemangiosarcoma would be considered most likely; however, no discrete tumors were seen today. This is not definitive, as visualization is limited on 2D ultrasound. Extra-cardiac lesions are easily missed without advanced



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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).

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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. **It is certainly concerning that the patient is back in cardiac tamponade after only 6 days. A repeat tap is strongly recommended. If this is not possible in your facility, a referral should be considered. Additionally a baseline ECG is strongly recommended.**

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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.

**AGE**

6 years

**PLAN**

Consider referral for advanced imaging, repeat pericardiocentesis as discussed. Baseline ECG strongly recommended. No cardiac medications are clearly indicated at this time. Over the counter herbal supplement Yunnan Baiyao may help decrease risk of bleeding, however true benefit is speculative (1 capsule PO BID).

**WEIGHT**

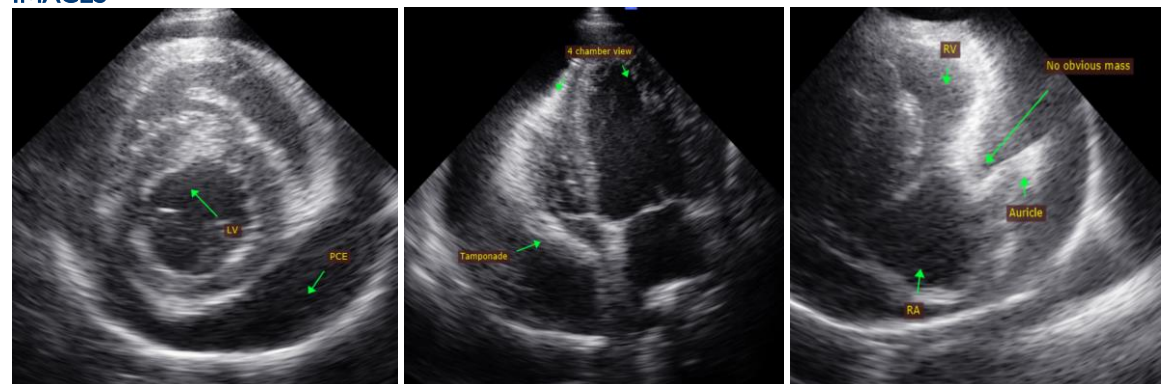
87.2lbs

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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Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGES**



**IMAGING PERFORMED BY**

Dana Alterman,  
RDCS, LVT

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Dr. Martin

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.

**INVOICE**

24993

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.

**DATE**

6/27/22

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